# PERFORMANCE ANALYSIS OF GAS TURBINE CYCLE AT VARIABLE SPECIFIC HEAT

**A MAJOR PROJECT SUBMITTED TO THE "DELHI UNIVERSITY (DELHI COLLEGE OF ENGINEERING)", DELHI IN PARTIAL FULFILLMENT OF THE REQUIREMENT**

**FOR**

**THE AWARD OF DEGREE OF**

**MASTER OF ENGINEERING**

IN

**MECHANICAL ENGINEERING**

**(THERMAL ENGINEERING)**

**SUBMITTED BY**

**ANKIT MOHTA**

**04/ME/02**

**UNDER THE GUIDANCE OF**

**PROF. B.B. ARORA**

**DEPARTMENT OF MECHANICAL ENGINEERING**

**DELHI COLLEGE OF ENGINEERING**

**DELHI.**

# Certificate's Declaration

I hereby declare that the work which is being present in the major project entitled ***"Performance Analysis Of Gas Turbine Cycle At Variable Specific Heat"*** in partial fulfillment for the award of Degree of **Master of Engineering** with specialization in "**Thermal Engineering"** submitted to **Delhi College of Engineering, University of Delhi,** is authentic record of my own work carried out under the supervision of **Prof. B.B. Arora,** Deptt. Of Mechanical Engineering, Delhi College of Engineering, University of Delhi. I have not submitted the matter in this dissertation for the award of any other Degree or Diploma or any other propose whatever.


(Ankit Mohta)
Univ. Roll. No.—----------
College Roll No, 04/ME/02


Date

# Certificate

This is to certify that the above statement made by the candidate is true to the best of my knowledge and belief.


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# ACKNOWLEDGEMENT

Sometimes words are a poor substitute in expressing one's feeling, but eventually they are the only means for expressing oneself. I express my sense of sincerity & deep gratitude to my guide **Prof. B.B. Arora,** Mechanical Engineering Department, Delhi College of Engineering, Delhi, for his nurtured vision & invaluable, which he poured constantly and drove me towards that invisible. His valiant efforts, dedicated support & multifunctional approach smoothened the whole process.

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# ABSTRACT

The most important thermodynamic property used in heat release calculations is the specific heat ratio. The functions proposed in the literature for the specific heat ratio is temperature dependent. The various models of temperature dependant specific heat ratio is discussed in the literature and with a study of these functions it is a very clear to consider specific heat is a linear function in terms of temperature to a certain limits of temperature.

The thermodynamic performance of gas turbine cycle with temperature dependant variable specific heats of working fluid is studied and temperature dependent specific heat ratio functions were derived. The specific heats are a function of temperature and thus make a difference.

As the specific heats of a working fluid is always a function of temperature, it is necessary to consider this aspect in the practical gas turbine cycles. The thermodynamic performance of Gas turbine cycle with variable specific heats of working fluid with temperature is analyzed. The relations between the specific work ratio and the pressure ratio, between the thermal efficiency and the pressure ratio, as well as the optimal relation between specific work ratio and the efficiency of the cycle, are derived by detailed numerical examples. Also the cycle is analyzed with the intercooler alone, reheat alone and both with intercooler and reheat. The results show that the effects of variable specific heats of working fluid on the cycle performance are obvious, and they should be considered in practical cycle analysis. In the analysis a comparison between a constant and variable specific heat has been also made. The results obtained in this project may provide guidance for the design of practical gas turbines.

Further a computer program has been generated to analyze the gas turbine cycles at variable specific heats as to make the calculation easier as well as faster. With this , any number of intercooler and reheat cycles can be analyze.

# GLOSSARY

**$T_1$** - Compressor Inlet Temperature

**$T_2$** - Compressor Exit Temperature

**$T_3$** - Turbine Inlet Temperature (TIT)

**$T_4$** - Turbine Exit Temperature

**$N_1$** - Number of Inter-Cooling

**$N_2$** - Number of Reheating

**eth** -Thermal Efficiency of the cycle

**ecc** - Combustion Efficiency of the cycle

**ec** -Compressor Efficiency

**et** -Turbine Efficiency

**$W_c$** -Total Compressor Work Input

**$W_{ci}$** -Compressor Work Input for $i^{th}$ stage

**$W_t$** -Total Turbine Work Output

**$W_{ti}$** -Turbine Work Output for $i^{th}$ stage

**$W_n$** -Net Work Output

**$M_a$** -Mass of air

**a** -Constant term of specific heat at constant pressure [ $C_p = a+k_1T$ ]

**b** -Constant term of specific heat at constant volume [ $C_v = b+k_1T$ ]

**$k_1$** -Constant of variable term of specific heat

**$\gamma$** -Isentropic Index

**$W_s$** -Ratio of $W_n$ / $C_p T_1$

**Q** -Heat Input

# CONTENTS

**Certificate**
**Acknowledgement**
***Abstract***

# CHAPTER-1
# INTRODUCTION AND LITERATURE REVIEW

## 1.1 INTRODUCTION

In any gas turbine cycle we had always some assumptions in ideal cycle analysis

The assumption of ideal gas turbine cycle may be taken as the following:

1. The change of kinetic energy of the working fluid between inlet and outlet of each component is negligible.
2. Compression and expansion are reversible and adiabatic, i.e. isentropic.
3. There are no pressure losses in the inlet ducting, combustion chambers, heat exchangers, intercoolers, exhaust ducting and ducts connecting the components.
4. The mass flow of gas is constant throughout the cycle.
5. **Working fluid has the same composition throughout the cycle and is a perfect gas with constant specific heats.**

So these assumption make a considerable difference in practical cycles. In this project , effect of variable specific heats with temperature has been analyzed.

## 1.2 EFFECT OF VARIABLE SPECIFIC HEAT

The specific heat of air is independent of pressure within the operating limit of gas turbine. However, it varies considerably with temperature. At 300 K the constant pressure specific heat of air is 1.005 kJ /kg K but at 1000K, it is 1.140 kJ/kg K- an increase of about 13.4%.

Further, the internal combustion of fuel causes the expanding exhaust gas which contains products of combustion, principally $CO_2$ and $H_2O$ vapour, both having higher value of specific heat than that of pure air. At 1000 K, a typical value of Cp for gases after combustion is 1.147. In ideal cycle calculations the specific heat has been taken to be constant throughout the cycle, with a value of 1.005 kJ /kg K.

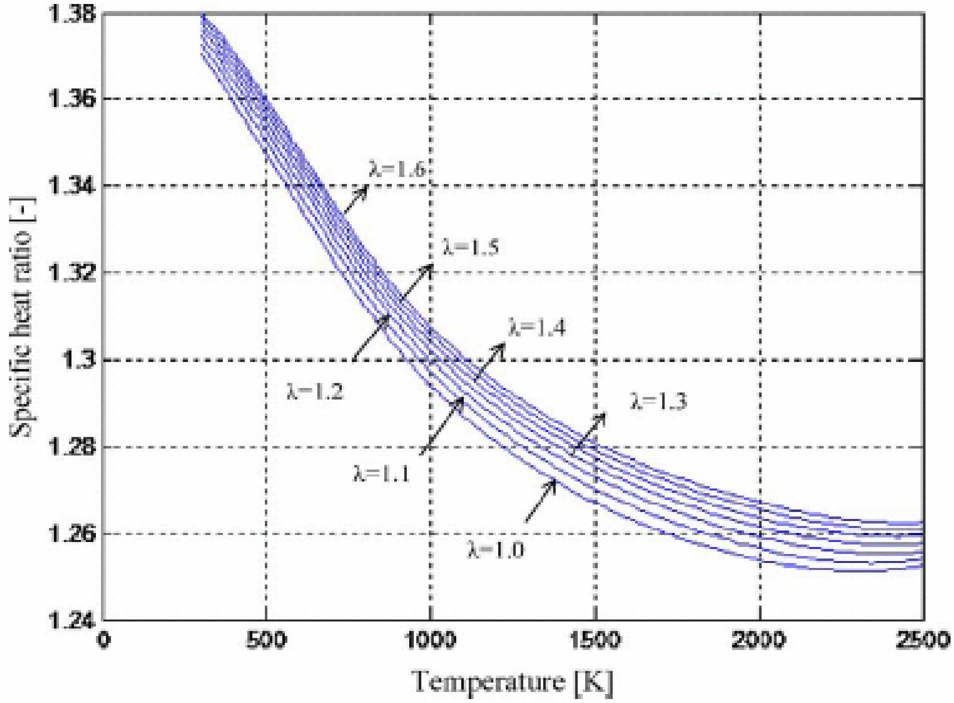
Thus, this assumption would seem to introduce considerable error, because the difference between the cold air and hot gas values given above is about 15%. Actually the specific heat for air and gases, changes continuously during compression and expansion. For precise calculation, an integration process is required. Keenan and kaye* have provided tables of air and gas properties at various air-fuel ratios in their 'Gas Tables' which can be used for precise calculations.

## 1.3 VARIATION OF SPECIFIC HEATS WITH TEMPERATURE

The most important thermodynamic property used in heat release calculations is the specific heat ratio. The functions proposed in the literature for the specific heat ratio is temperature dependent.

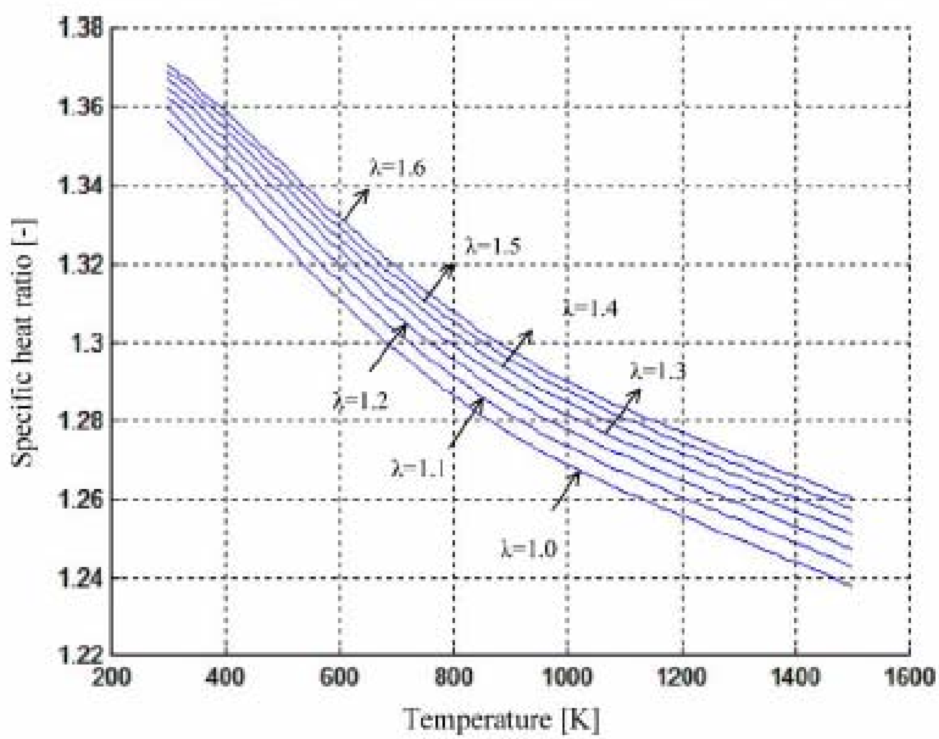
M.A. Ceviz *, I. Kaymaz Faculty of Engineering, University of Atatu¨ rk, Erzurum 25240, Turkey has published a paper on 19 February 2005 entitled as **'Temperature and air–fuel ratio dependent specific heat ratio functions for lean burned and unburned mixture'** in which he explained the dependency of the specific heat on temperature. He explained that the specific heats are dependent on charge temperature and composition and, as such, will vary during the engine cycle and with operating conditions. The use of a temperature dependent specific heat ratio function greatly reduces the potential errors in calculated the heat release.

Figs. 1 and 2 show the specific heat ratio against the charge temperature based on the results of the equilibrium combustion model for burned and unburned mixtures at various air–fuel ratios in a gasoline engine. It can be seen from these figures that the specific heat ratio decreases as the temperature increases, whereas it increases as the air–fuel ratio increases. These curves reveal that the relationship between specific heat ratio and temperature is almost linear and the variation with lambda is significant.




Variation of specific heat ratio with temperature and air–fuel ratio for burned mixture.

**FIGURE1**




Variation of specific heat ratio with temperature and air–fuel ratio for unburned mixture.

**FIGURE2**

1. Function of Gatowski et al. :

$\gamma = \gamma_0 - K1(T - T_{ref}) = 1000$

where γ0 is a reference value (1.38), K1 is a constant (0.08) and Tref is a reference temperature (300 K).

2. Function of Brunt et al. [2]:

$\gamma = 1.338 - 6.0 - 10^{-5}T + 1.0 - 10^{-8}T^2$

where T is temperature in K

3. Function of Egnell [4]:

$\gamma = \gamma_0 - k1 \exp(-k2/T)$

where γ0 is a reference value (1.38), k1 and k2 are constants (0.2- 900) and Tref is a reference temperature (300 K).

4. Derived functions of burned and unburned mixtures:

The specific heat ratios for the unburned and burned mixtures were computed using the equilibrium combustion model. The air–fuel ratio was increased from 1.0 to 1.6 in steps of 0.1, and the ranges of temperature were 300–1500 K and 300–2500 K for the unburned and burned mixtures, respectively. The data of the specific heat ratio was used to derive functions for the unburned and burned mixtures using a least squares approach and choosing the parameters as temperature (T in K) and air–fuel ratio (k). The functions of the specific heat ratio for the unburned and burned mixtures in T and k can be written as:

$$\gamma_u = a_1 + a_2 T + a_3 T^2 + a_4 T^3 + a_5 T^4 + a_6 T^5 + \frac{a_7}{\lambda}$$

$$\gamma_b = b_1 + b_2 T + \frac{b_3}{\lambda} + b_4 T^2 + \frac{b_5}{\lambda^2} + \frac{b_6 T}{\lambda} + b_7 T^3 + \frac{b_8}{\lambda^3} + \frac{b_9 T}{\lambda^2} + \frac{b_{10} T^2}{\lambda}$$

With an overall study of the variable specific heats are temperature dependent as with almost linear relationship in some limit of temperature

## 1.4 THEORY OF DIFFERENT GAS TURBINE CYCLES

### 1.4.1 Carnot cycle

In this cycle there are two isentropic and two isothermal processes. Compression and expansion are the isentropic process and heat addition and heat rejection are the isothermal processes.

The process of Carnot cycle would have to be non-flow making the cycle totally unsuited for a gas turbine power plant. Furthermore, slow speed of operation accompanies the slow rate of heat transfer. Metallurgical and lubrication complications of great magnitude are involved. Thus it must be concluded that the Carnot cycle can be useful only as a standard of comparison for the gas turbine.

### 1.4.2 Stirling cycle with regenerator.

Stirling patented and designed a regenerator, an apparatus for storing and restoring heat to gas of an engine cycle. This cycle consisted of adding heat to a gas during an expansion process in such a way that the temperature remained constant at T1. this gas then passed at constant volume through the regenerator, which absorbed heat until the temperature was reduced to lower value T2. The air was, then, isothermally compressed at T2 through the same compression ratio as occurred during the expansion by being in contact with refrigerator or heat sink at T2. This is followed by passing the air back through the regenerator at constant volume, picking up the heat deposited in it on the first passage so that the temperature increases from T2 to T1.

Stirling cycle reciprocating engines have been built in past, but with very poor results from a thermal efficiency standpoint. The non-flow processes in the Stirling cycle makes it totally unsuited for gas-turbine plant.

## 1.4.3 Ericsson cycle

Another air cycle of some interest in the general understanding of the fundamentals of the gas turbine. It was patented by Ericsson in about 1830. In this cycle air is heated from temperature T2 to temperature T1 at constant pressure p1 by passing through the regenerator. It enters into working cylinder where an isothermal expansion occurs at temperature T1 by addition of heat to the cylinder. The air then discharge back through the regenerator at constant pressure p2 to a compressor cylinder giving up heat to the regenerator sufficient to change the temperature from T1 to T2 in the process. The compressor now compresses the air isothermally at temperature T2, rejecting heat in the operation, to the original pressure p1.

It appear that the Ericsson cycle with regeneration provides an excellent opportunity to improve the efficiency of a gas turbine power plant. But in fact, it will be found that the improvement of gas turbine efficiencies centers on the application of these modification within the bounds of realizing a plant of reasonable first cost and size, which is free from undue complexity.

## 1.4.4 The Joule Air Cycle.

In 1851 Dr. Joule proposed an air engine consisting of a compression cylinder and an expansion cylinder connected by two large chambers one of these chambers was to be maintained at a high temperature $T_1$ while the other was to be maintained at a lower temperature $T_2$. These chambers were large in comparison with the cylinders volumes and since the cylinders discharge are drew from the chambers, the resulting pressure fluctuations were small.

The operation consisted of the working cylinder drawing a charge of air at a constant pressure $p_1$ from the hot chambers $T_1$, expanding it isoentropically to pressure $p_2$ and then exhausting it to the cold chamber at constant pressure $p_2$, while it was cooled to temperature $T_2$. The compressor cylinder takes in air at $p_2$ and $T_2$ from cold chamber and isoentropically compresses it to pressure p1 and then delivers it at constant pressure $p_1$ into the hot chamber where its temperature is raised to $T_1$.This cycle is most suited to the gas turbine power plant.

## 1.5 LITERATURE REVIEW

**Yanlin Ge** ( Postgraduate School, Naval University of Engineering, Wuhan 430033, PR China ) published a paper **"Performance of an Atkinson cycle with heat transfer, friction and variable specific-heats of the working fluid"** on 23 December **2005**

In this paper he has discussed the performance of an air standard Atkinson cycle with heat-transfer loss, friction-like term loss and variable specific-heats of the working fluid is analyzed . The relations between the power output and the compression ratio, between the thermal efficiency and the compression ratio, as well as the optimal relation between the power output and the efficiency of the cycle are derived by detailed numerical examples. Moreover, the effects of variable specific heats

of the working fluid and the friction-like term loss on the irreversible cycle performance are analyzed. The results show that the effects of variable specific-heats of working fluid and friction-like term loss on the irreversible cycle performance should be considered in cycle analysis.

**Lingen Chen a, Chih Wu b** ( a: Postgraduate School, Naval University of Engineering, Wuhan 430033, PR China , b: Mechanical Engineering Department, US Naval Academy, Anapolis, MD 21402, USA) published a paper "**Effects of heat transfer, friction and variable specific heats of working fluid on performance of an irreversible dual cycle**" on 15 February **2006**

In this paper they analyze The thermodynamic performance of an air standard dual cycle with heat transfer loss, friction like term loss and variable specific heats of working fluid is analyzed. According to their analysis, it can be found that the effects of the variable specific heats of the working fluid and the friction loss on the cycle performance are obvious, and they should be considered in practical cycle analysis in order to make the cycle model be closer to practice. the performance characteristics of the cycle were obtained by detailed numerical examples. Their results show that the effects of variable specific heats of the working fluid and the friction loss on the cycle performance are obvious, and they should be considered in practical cycle analysis. The results obtained in this paper may provide guidance for the design of practical engines.

**A. Al-Sarkhi a,*, J.O. Jaber a, M. Abu-Qudais a, S.D. Probert** (a :Department of Mechanical Engineering, Hashemite University, Zarqa 13115, Jordan , b : School of Engineering, Cranfield University, Bedford MK43 OAL, UK ) published a paper **" Effects of friction and temperature-dependent specific-heat of the working fluid on the performance of a Diesel-engine"** on 7 March **2005**

In their paper Using finite-time thermodynamics, the relations between the power output, thermal efficiency and compression ratio have been derived. The effect of the specific heat of the working fluid, being temperature dependent, on the irreversible cycle performance, is significant An air-standard Diesel-cycle model, assuming a temperature-dependent specific heat of the working fluid, and heat resistance and frictional irreversible losses, has been investigated numerically. The performance characteristics of the cycle were obtained by numerical examples. The results show that there are significant effects of the temperature dependence of the specific heat of the working fluid on the performance of the cycle, and this should be considered in practical-cycle analysis. The results obtained from this research are compatible with those in the open literature. They also suggested that Future studies should discuss the possible effects of fuel additives in order to achieve a less temperature-dependent specific heat of the working fluid.

**M.A. Ceviz *, _I. Kaymaz** (Department of Mechanical Engineering, Faculty of Engineering, University of Atatu¨ rk, Erzurum 25240, Turkey) published a paper **"Temperature and air–fuel ratio dependent specific heat ratio functions for lean burned and unburned mixture"** on 19 February **2005**

The functions In this study, for burned and unburned mixtures, temperature and air–fuel ratio dependent specific heat ratio functions were derived by using the equilibrium combustion model and the variations of gases thermodynamic properties with mean temperature. Then, the global specific heat ratio was calculated by using the variation of the mass fraction burned. The results show that implementation of a c = c(T,k) function reduces notably the error deriving from temperature only dependent specific heat ratio under lean operation of engine. The experiments performed at four different air–fuel ratios show that as the air–fuel ratio increases, the results of the equilibrium combustion model and the c function are in reasonable agreement. Additionally, the derived functions for burned and unburned mixtures have a great simplicity in the mathematical formulation and only need the global air–fuel ratio, temperature and mass fraction burned, which can be determined from experimental pressure measurements.

**Chih Wub ,Yanlin Ge** (Faculty 306, Naval University of Engineering, Wuhan 430033, PR China) published a paper **"Thermodynamic simulation of performance of an Otto cycle with heat transfer and variable specific heats of working fluid"** on 4 October **2004**.

In this paper the performance of an air-standard Otto cycle with heat transfer loss and variable specific heats of working fluid is analyzed by using finite-time thermodynamics. The relations between the power output and the compression ratio, between the thermal efficiency and the compression ratio, as well as the optimal relation between power output and the efficiency of the cycle are derived by detailed numerical examples. Moreover, the effects of heat transfer loss and variable specific heats of working fluid on the cycle performance are analyzed. The results show that the effects of heat transfer loss and variable specific heats of working fluid on the cycle performance are obvious, and they should be considered in practice cycle analysis.

**Cai Ruixian *, Jiang Lixia** (Institute of Engineering Thermophysics, Chinese Academy of Sciences) published a paper **"Analysis of the recuperative gas turbine cycle with a recuperator located between turbines"** on 15 April **2005**

A recuperative gas turbine cycle with a recuperator located between a high-pressure turbine and a low-pressure turbine (alternative recuperative cycle) is analyzed and compared with the simple cycle and conventional recuperative cycle in detail. The result based on the ideal cycle analysis shows that the alternative recuperative cycle can achieve the highest efficiency among the abovementioned three cycles, but its specific work is much lower. When all irreversible factors are taken into account, however, the alternative recuperative cycle does not exhibit the highest efficiency.

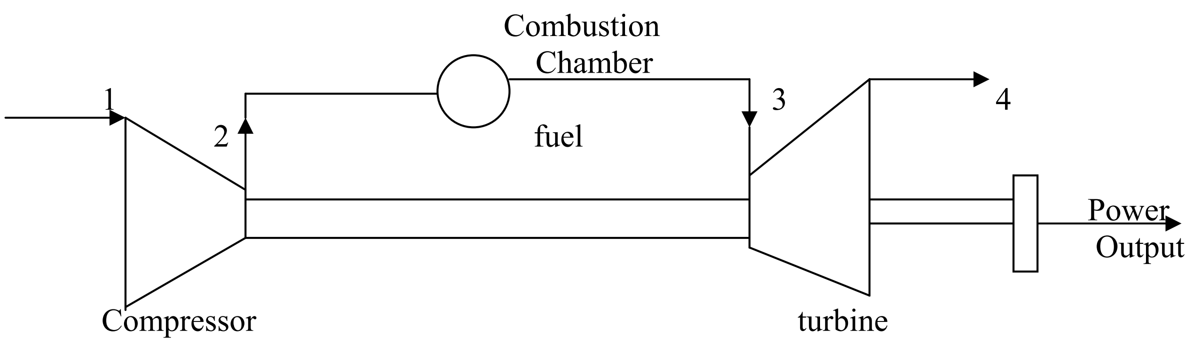
# CHAPTER – 2
# ANALYSIS OF GAS TURBINE CYCLE

## 2.1 SIMPLE GAS TURBINE THEROY

In a simple gas turbine , air is first of all compresses in the compressor then it is sent in the combustion chamber for heat addition. Further this air expands in the turbine where the work output gets and further the heat rejection takes place and complete the cycle. From the thermodynamic analysis the relevant steady flows energy equation

$W_s = \triangle h = h_2 - h_1$

Where $W_s$ is the work transfer per unit mass flow, and h stands for enthalpies.




Block Diagram of a simple gas turbine

**Compressor work [$W_C$]**

$W_{12} = (h_2 - h_1) = C_p\,(T_2 - T_1)$

**Heat addition [Q]**

$Q_{23} = (h_3 - h_2) = C_p\,(T_3 - T_2)$

**Turbine work [$W_T$]**

$W_{34} = (h_3 - h_4) = C_p\,(T_3 - T_4)$

**Network output [$W_N$]**

$= W_T - W_C$

$= C_P\,(T_3 - T_4) - C_p\,(T_2 - T_1)$

**Efficiency**

$$\eta = \frac{\text{Net work output}}{\text{Heat input}} = \frac{W_N}{Q}$$

In the ideal cycles, the assumption compression and expansion are reversible and adiabatic, i.e. isentropic. During compression process a considerable amount of energy supplied to the compressor is wasted in churning up the working fluid. The energy does not contribute to the pressure rise but is converted into heat by friction.

The compressor efficiency may be defined as the ratio of the work required for isentropic compression to the actual work input.

$$\eta_C = \frac{\text{Isentropic compressor work input}}{\text{Actual compressor work input}}$$

The expansion process of the gas turbine cycle, a similar effect of wasteful heating of the working fluid will occur, as in the case of compressor.

The efficiency of the turbine can be written as

$$\eta_T = \frac{\text{Actual turbine work output}}{\text{Isentropic turbine work output}}$$

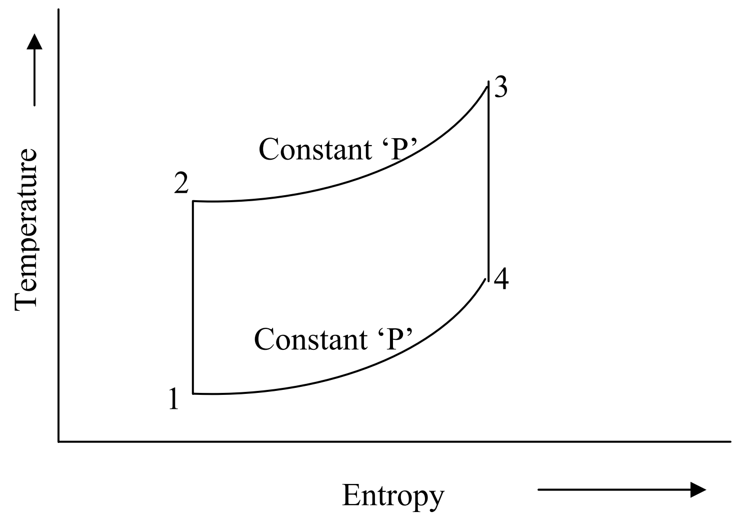
$$= \frac{ho_3-ho_4}{ho_3-ho_{4'}} = \frac{(To_3-To_4)}{(To_3-To_{4'})}$$

For the constant value of $C_p$

Also during heat transfer all the heat, containing the fuel, is never being transferred to the air. So it is always considered the combustion efficiency $\eta_{cc}$, which should be used in the calculation of heat addition.

## 2.2 EFFECTS OF TEMPERATURE-DEPENDENT SPECIFIC-HEAT OF THE WORKING FLUID ON THE PERFORMANCE OF A GAS TURBINE CYCLE

The compression process 1→ 2 is isentropic, the heat addition 2 →3 an isobaric process, the expansion 3 → 4 an isentropic process, and the heat rejection 4 → 1 an isochoric process.




In a real cycle, the specific heat of the working fluid varies with temperature and this will have a significant influence on the performance of the cycle. Assuming that the specific heat of the working fluid is a function of temperature alone, over the temperature range generally encountered for gases in heat engines (i.e., 300–2200 K), the specific-heat curve is nearly linear, i.e., to a close approximation:

$C_{pm} = a + k1T$ (4)

$C_{vm} = b + k1T$ (5)

where a, b and k1 are constants, $C_{pm}$ and $C_{vm}$ are the mole specific heats with respect to constant pressure and volume, respectively. Accordingly, the constant, R, of the working fluid is

$R = C_{pm} - C_{vm} = a - b$ (6)

The heat added to the working fluid, during process 2 → 3, is

$$Q_{in} = M\int_{T_2}^{T_3} C_p \mathrm{d}T = M\int_{T_2}^{T_3} (a + k_1 T)\mathrm{d}T$$
$$= M[a(T_3 - T_2) + 0.5k_1(T_3^2 - T_2^2)].$$

The heat rejected by the working fluid, during process 4 → 1, is

$$Q_{out} = M\int_{T_1}^{T_4} C_{pm} \mathrm{d}T = M\int_{T_1}^{T_4} (a_p + k_1 T)\mathrm{d}T$$
$$= M[a_p(T_4 - T_1) + 0.5K_1^2(T_4^2 - T_1^2)]$$

The work output of the cycle is

$$W = Q_{in} - Q_{out}$$

Since $C_{pm}$ and $C_{vm}$ are dependent on temperature, the adiabatic exponent 'k' $k = C_{pm} / C_{vm}$ will vary with temperature as well. Therefore, the equation often used in reversible adiabatic- processes with constant k cannot be used in reversible adiabatic-processes with variable k. However, a suitable engineering approximation for a reversible adiabatic-process with variable k can be made, i.e., this process can be broken up into infinitesimally-small processes, and for each of these processes, the adiabatic exponent k can be regarded as a constant. For example, any reversible adiabatic-process between states i and j can be regarded as consisting of numerous infinitesimally-small processes with constant k. For any of these processes, when small changes in temperature dT and in volume dV of the working fluid take place, the equation for a reversible adiabatic process with variable k can be written as follows:

$T (P)^{(1-\gamma)/\gamma} = A$

$T(P)^{(1-\gamma)/\gamma} = (T+ dT) (P+dP)^{(1-\gamma)/\gamma}$

$\{T/ (T+dT)\} = \{(P+dP)/P\}^{(1-\gamma)/\gamma}$

$(1+ dT/T)^{-1} = (1+ dP/P)^{(1-\gamma)/\gamma}$

$-\ln (1+ dT/T) = \{(1-\gamma) / \gamma\} \ln (1+ dP/P)$

With the expansion of the *'ln '*series and leaving the higher degree terms, we get

$-(dT/T) = (1-\gamma) / \gamma(dP/P)$

As *'γ'* is expressed as the ratio of $c_p$ and $c_v$,

Thus we get,

$(1-\gamma) / \gamma= \{-R / (a+k_1T)\}$

$-dT/T = \{-R / (a+k_1T)\} (dP/P)$

$\{(a+ k_1T)/T\} dT = R (dP/P)$

$[+a \ln T+K_1T = R \ln P$

$$a_v \ln T + k_1T=R \ln P$$

This is the equation used for the process 1→ 2 and 3→4.

$a_v \ln Tj + K_1 Tj = R \ln P$

$a_v \ln (Tj/Ti) + K_1 (Tj- Ti) = R \ln Pj/Pi$

$a_v \ln (Tj/Ti) + K_1 (Tj- Ti) = R \ln Pj/Pi$

$a_v \ln Tj + K_1 = K_1 Ti + a_v \ln Ti + R \ln Pj/Pi$

Say $B = R \ln Pj/Pi$

$a_v \ln Tj + K_1 Tj = B+K_1 Ti + a_v \ln Ti$

$\ln Tj + K_1 Tj/ a_v = \{(B+K_1 Ti + a_v \ln Ti)/ a_v \}$

Say $\{(B+K_1 Ti + a_v \ln Ti)/ a_v\} =X$

Say $K_1/a_v = Y$

$\ln Tj + YTj =X$

Or $\ln Tj – X+YTj=0$

Or

$$f (t) =\ln Tj – X + YTj$$

With the above equations, temperatures of the cycle have to be calculated.

# CHAPTER –3

# RESULTS AND DISCUSSION

## 3.1 RESULTS AND DISCUSSION-1

A computer program has been generated for the analysis of: -

1. Thermal efficiency of gas turbine cycle
2. Total compressor work input required of the gas turbine cycle
3. Total turbine work output of the gas turbine cycle
4. Net work output of the gas turbine cycle
5. Ratio of Wn / Cp $T_1$ of gas turbine

The following variables have been varied: -

1. The value of constant term of the specific heat of the working fluid (a and b). The value of 'a' varies from 28.182 to 32.182.
2. The constant of variable term of the variable specific heats ($k_1$). The value of ' $k_1$' varies from 0.004 to 0.008.
3. Number of intercoolers used in the cycle ($N_1$).
4. Number of reheat in the cycle ($N_2$).

Assumptions: -

1. Mass of the working fluid =1 kmol
2. Efficiency of combustion **ecc=0.95**
3. Efficiency of the compressor **ec =0.95**
4. Efficiency of the turbine **et = 0.95**

5. Ambient temperature **$T_1$= 300 k**
6. Temperature after inter cooler =300k
7. Temperature after reheat = Temperature at the turbine inlet of first stage ($T_3$)
8. Compression pressure ratio after intercooler = Compression pressure ratio before intercooler .
9. Expansion pressure ratio after reheat = Expansion pressure ratio before reheat

**The results starts from Next page:-**

**** (for program code , refer to annexure -1)**

## 3.2 RESULTS OH COMPUTER PROGRAM FOR THE ANALYSIS OF GAS TURBINE

### 3.2.1 For simple gas turbine

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 5009.415 | 0.145846 | 2999.423 | 0.340279 |
| 1000 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 9182.17 | 0.26289 | 4730.974 | 0.53672 |
| 1000 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 11288.42 | 0.318551 | 5175.418 | 0.587142 |
| 1000 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 12647.04 | 0.351922 | 5237.162 | 0.594146 |
| 1000 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 13630.12 | 0.374036 | 5141.562 | 0.583301 |
| 1000 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 14390.01 | 0.389333 | 4970.159 | 0.563855 |
| 1000 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 15003.49 | 0.400016 | 4759.539 | 0.539961 |
| 1000 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 15514.26 | 0.407208 | 4526.126 | 0.513481 |
| 1000 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 15949.42 | 0.411817 | 4283.569 | 0.485963 |
| 1000 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 16326.84 | 0.414229 | 4036.256 | 0.457906 |
| 1000 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 16658.89 | 0.414735 | 3787.717 | 0.429709 |
| 1000 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 16954.45 | 0.413511 | 3540.123 | 0.40162 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 5022.097 | 0.143217 | 3014.282 | 0.338508 |
| 1000 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 9225.715 | 0.258847 | 4785.055 | 0.537369 |
| 1000 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 11355.01 | 0.314199 | 5261.699 | 0.590897 |
| 1000 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 12731.23 | 0.347615 | 5350.07 | 0.600821 |
| 1000 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 13728.42 | 0.369961 | 5277.308 | 0.59265 |
| 1000 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 14500.03 | 0.385617 | 5126.026 | 0.57566 |
| 1000 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 15123.48 | 0.39677 | 4933.482 | 0.554037 |
| 1000 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 15642.92 | 0.404645 | 4718.64 | 0.52991 |
| 1000 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 16085.73 | 0.409862 | 4489.638 | 0.504193 |
| 1000 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 16469.98 | 0.413091 | 4256.585 | 0.478021 |
| 1000 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 16808.19 | 0.414551 | 4021.426 | 0.451612 |
| 1000 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 17109.34 | 0.41444 | 3786.463 | 0.425225 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 5034.139 | 0.140674 | 3028.448 | 0.336696 |
| 1000 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 9267.377 | 0.254902 | 4836.951 | 0.537762 |
| 1000 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 11418.97 | 0.309922 | 5344.732 | 0.594216 |
| 1000 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 12812.33 | 0.343351 | 5458.911 | 0.60691 |
| 1000 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 13823.29 | 0.365883 | 5408.298 | 0.601283 |
| 1000 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 14606.38 | 0.381846 | 5276.531 | 0.586633 |
| 1000 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 15239.62 | 0.393402 | 5101.512 | 0.567175 |
| 1000 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 15767.58 | 0.40177 | 4902.637 | 0.545065 |
| 1000 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 16217.92 | 0.407595 | 4688.723 | 0.521282 |
| 1000 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 16608.9 | 0.411514 | 4469.45 | 0.496904 |
| 1000 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 16953.19 | 0.41377 | 4247.212 | 0.472196 |
| 1000 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 17259.88 | 0.414577 | 4024.432 | 0.447428 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 5045.586 | 0.138213 | 3041.968 | 0.334849 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 9307.261 | 0.251053 | 4886.782 | 0.537919 |
| 1000 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 11480.44 | 0.305722 | 5424.676 | 0.597129 |
| 1000 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 12890.45 | 0.339134 | 5563.872 | 0.612451 |
| 1000 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 13914.87 | 0.361816 | 5534.745 | 0.609245 |
| 1000 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 14709.18 | 0.378038 | 5421.908 | 0.596824 |
| 1000 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 15352.03 | 0.38994 | 5263.887 | 0.57943 |
| 1000 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 15888.37 | 0.398733 | 5080.494 | 0.559242 |
| 1000 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 16346.11 | 0.405155 | 4882.781 | 0.537479 |
| 1000 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 16743.73 | 0.409581 | 4675.203 | 0.51463 |
| 1000 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 17094.01 | 0.412509 | 4465.453 | 0.491541 |
| 1000 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 17406.17 | 0.414082 | 4254.442 | 0.468314 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 5056.477 | 0.135831 | 3054.886 | 0.332972 |
| 1000 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 9345.465 | 0.247298 | 4934.661 | 0.537861 |
| 1000 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 11539.52 | 0.3016 | 5501.682 | 0.599665 |
| 1000 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 12965.75 | 0.334969 | 5665.132 | 0.61748 |
| 1000 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 14003.29 | 0.357767 | 5656.849 | 0.616577 |
| 1000 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 14808.58 | 0.374208 | 5562.382 | 0.606281 |
| 1000 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 15460.85 | 0.386408 | 5420.853 | 0.590854 |
| 1000 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 16005.4 | 0.395566 | 5252.476 | 0.572502 |
| 1000 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 16470.43 | 0.402418 | 5068.587 | 0.552459 |
| 1000 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 16874.58 | 0.407444 | 4875.922 | 0.531459 |
| 1000 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 17230.78 | 0.41086 | 4676.503 | 0.509723 |
| 1000 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 17548.33 | 0.413078 | 4476.87 | 0.487964 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.004 | 20.868 | 2 | 2003.364 | 5022.819 | 0.141695 | 3019.456 | 0.331277 |
| 1000 | 29.182 | 0.004 | 20.868 | 4 | 4421.283 | 9230.712 | 0.256307 | 4809.429 | 0.527662 |
| 1000 | 29.182 | 0.004 | 20.868 | 6 | 6059.402 | 11365.14 | 0.311369 | 5305.734 | 0.582114 |
| 1000 | 29.182 | 0.004 | 20.868 | 8 | 7334.036 | 12745.92 | 0.344744 | 5411.881 | 0.59376 |
| 1000 | 29.182 | 0.004 | 20.868 | 10 | 8391.957 | 13747.35 | 0.367193 | 5355.394 | 0.587562 |
| 1000 | 29.182 | 0.004 | 20.868 | 12 | 9303.828 | 14522.88 | 0.383055 | 5219.056 | 0.572604 |
| 1000 | 29.182 | 0.004 | 20.868 | 14 | 10109.64 | 15149.95 | 0.394496 | 5040.314 | 0.552993 |
| 1000 | 29.182 | 0.004 | 20.868 | 16 | 10834.44 | 15672.74 | 0.402734 | 4838.3 | 0.53083 |
| 1000 | 29.182 | 0.004 | 20.868 | 18 | 11497.38 | 16118.66 | 0.408392 | 4621.283 | 0.50702 |
| 1000 | 29.182 | 0.004 | 20.868 | 20 | 12106.34 | 16505.82 | 0.412137 | 4399.482 | 0.482685 |
| 1000 | 29.182 | 0.004 | 20.868 | 22 | 12671.82 | 16846.76 | 0.414199 | 4174.937 | 0.458049 |
| 1000 | 29.182 | 0.004 | 20.868 | 24 | 13200.47 | 17150.49 | 0.414784 | 3950.02 | 0.433373 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.005 | 20.868 | 2 | 2001.339 | 5034.806 | 0.13921 | 3033.467 | 0.32956 |
| 1000 | 29.182 | 0.005 | 20.868 | 4 | 4411.542 | 9272.037 | 0.252447 | 4860.495 | 0.528051 |
| 1000 | 29.182 | 0.005 | 20.868 | 6 | 6041.26 | 11428.49 | 0.307174 | 5387.227 | 0.585275 |
| 1000 | 29.182 | 0.005 | 20.868 | 8 | 7307.64 | 12826.15 | 0.340544 | 5518.512 | 0.599538 |
| 1000 | 29.182 | 0.005 | 20.868 | 10 | 8357.597 | 13841.15 | 0.363154 | 5483.556 | 0.595741 |
| 1000 | 29.182 | 0.005 | 20.868 | 12 | 9261.813 | 14627.97 | 0.379288 | 5366.161 | 0.582987 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 29.182 | 0.005 | 20.868 | 14 | 10060.26 | 15264.68 | 0.391089 | 5204.416 | 0.565415 |
| 1000 | 29.182 | 0.005 | 20.868 | 16 | 10777.97 | 15795.85 | 0.399766 | 5017.875 | 0.545149 |
| 1000 | 29.182 | 0.005 | 20.868 | 18 | 11431.74 | 16249.17 | 0.40606 | 4817.433 | 0.523372 |
| 1000 | 29.182 | 0.005 | 20.868 | 20 | 12035.93 | 16642.95 | 0.41032 | 4607.019 | 0.500513 |
| 1000 | 29.182 | 0.005 | 20.868 | 22 | 12594.89 | 16989.87 | 0.413082 | 4394.979 | 0.477476 |
| 1000 | 29.182 | 0.005 | 20.868 | 24 | 13117.19 | 17299.04 | 0.414468 | 4181.853 | 0.454322 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.006 | 20.868 | 2 | 1999.361 | 5046.203 | 0.136804 | 3046.841 | 0.327808 |
| 1000 | 29.182 | 0.006 | 20.868 | 4 | 4402.068 | 9311.612 | 0.24868 | 4909.544 | 0.528215 |
| 1000 | 29.182 | 0.006 | 20.868 | 6 | 6023.664 | 11489.38 | 0.303053 | 5465.717 | 0.588053 |
| 1000 | 29.182 | 0.006 | 20.868 | 8 | 7282.092 | 12903.48 | 0.336391 | 5621.386 | 0.604801 |
| 1000 | 29.182 | 0.006 | 20.868 | 10 | 8324.398 | 13931.73 | 0.359129 | 5607.332 | 0.603289 |
| 1000 | 29.182 | 0.006 | 20.868 | 12 | 9221.274 | 14729.6 | 0.375493 | 5508.329 | 0.592638 |
| 1000 | 29.182 | 0.006 | 20.868 | 14 | 10012.68 | 15375.76 | 0.387602 | 5363.081 | 0.57701 |
| 1000 | 29.182 | 0.006 | 20.868 | 16 | 10723.61 | 15915.16 | 0.396659 | 5191.556 | 0.558556 |
| 1000 | 29.182 | 0.006 | 20.868 | 18 | 11370.84 | 16375.78 | 0.403399 | 5004.932 | 0.538477 |
| 1000 | 29.182 | 0.006 | 20.868 | 20 | 11968.34 | 16776.08 | 0.408198 | 4807.743 | 0.517262 |
| 1000 | 29.182 | 0.006 | 20.868 | 22 | 12521.09 | 17128.9 | 0.411554 | 4607.802 | 0.49575 |
| 1000 | 29.182 | 0.006 | 20.868 | 24 | 13037.37 | 17443.45 | 0.413612 | 4406.074 | 0.474047 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.007 | 20.868 | 2 | 1996.362 | 5057.05 | 0.134514 | 3060.687 | 0.326139 |
| 1000 | 29.182 | 0.007 | 20.868 | 4 | 4392.848 | 9349.532 | 0.245003 | 4956.684 | 0.528172 |
| 1000 | 29.182 | 0.007 | 20.868 | 6 | 6006.588 | 11547.94 | 0.299008 | 5541.35 | 0.590473 |
| 1000 | 29.182 | 0.007 | 20.868 | 8 | 7257.348 | 12978.02 | 0.332291 | 5720.674 | 0.609581 |
| 1000 | 29.182 | 0.007 | 20.868 | 10 | 8292.295 | 14019.21 | 0.355126 | 5726.912 | 0.610246 |
| 1000 | 29.182 | 0.007 | 20.868 | 12 | 9182.126 | 14827.9 | 0.371683 | 5645.769 | 0.601599 |
| 1000 | 29.182 | 0.007 | 20.868 | 14 | 9966.779 | 15483.32 | 0.384058 | 5516.541 | 0.587829 |
| 1000 | 29.182 | 0.007 | 20.868 | 16 | 10671.23 | 16030.82 | 0.393443 | 5359.591 | 0.571105 |
| 1000 | 29.182 | 0.007 | 20.868 | 18 | 11312.22 | 16498.6 | 0.400568 | 5186.377 | 0.552648 |
| 1000 | 29.182 | 0.007 | 20.868 | 20 | 11901.59 | 16905.33 | 0.405911 | 5003.737 | 0.533186 |
| 1000 | 29.182 | 0.007 | 20.868 | 22 | 12450.22 | 17263.96 | 0.409691 | 4813.734 | 0.51294 |
| 1000 | 29.182 | 0.007 | 20.868 | 24 | 12960.77 | 17583.81 | 0.412321 | 4623.036 | 0.492619 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.008 | 20.868 | 2 | 1994.535 | 5067.384 | 0.132253 | 3072.849 | 0.324325 |
| 1000 | 29.182 | 0.008 | 20.868 | 4 | 4383.872 | 9385.889 | 0.241416 | 5002.017 | 0.52794 |
| 1000 | 29.182 | 0.008 | 20.868 | 6 | 5990.006 | 11604.27 | 0.29504 | 5614.262 | 0.592559 |
| 1000 | 29.182 | 0.008 | 20.868 | 8 | 7233.366 | 13049.9 | 0.328246 | 5816.537 | 0.613908 |
| 1000 | 29.182 | 0.008 | 20.868 | 10 | 8261.229 | 14103.71 | 0.351151 | 5842.479 | 0.616647 |
| 1000 | 29.182 | 0.008 | 20.868 | 12 | 9144.291 | 14922.97 | 0.367869 | 5778.684 | 0.609913 |
| 1000 | 29.182 | 0.008 | 20.868 | 14 | 9922.467 | 15587.48 | 0.380473 | 5665.015 | 0.597916 |
| 1000 | 29.182 | 0.008 | 20.868 | 16 | 10620.7 | 16142.92 | 0.390141 | 5522.218 | 0.582844 |
| 1000 | 29.182 | 0.008 | 20.868 | 18 | 11255.72 | 16617.75 | 0.3976 | 5362.024 | 0.565937 |
| 1000 | 29.182 | 0.008 | 20.868 | 20 | 11839.34 | 17030.8 | 0.403325 | 5191.462 | 0.547935 |
| 1000 | 29.182 | 0.008 | 20.868 | 22 | 12380.22 | 17395.16 | 0.407642 | 5014.937 | 0.529303 |
| 1000 | 29.182 | 0.008 | 20.868 | 24 | 12887.18 | 17720.24 | 0.410673 | 4833.067 | 0.510108 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 30.182 | 0.004 | 21.868 | 2 | 1997.18 | 5035.469 | 0.137773 | 3038.289 | 0.322721 |
| 1000 | 30.182 | 0.004 | 21.868 | 4 | 4393.478 | 9276.64 | 0.250028 | 4883.162 | 0.51868 |
| 1000 | 30.182 | 0.004 | 21.868 | 6 | 6009.68 | 11436.01 | 0.304351 | 5426.328 | 0.576374 |
| 1000 | 30.182 | 0.004 | 21.868 | 8 | 7263.772 | 12839.76 | 0.337752 | 5575.983 | 0.59227 |
| 1000 | 30.182 | 0.004 | 21.868 | 10 | 8302.555 | 13858.7 | 0.360423 | 5556.142 | 0.590162 |
| 1000 | 30.182 | 0.004 | 21.868 | 12 | 9196.528 | 14649.16 | 0.376704 | 5452.634 | 0.579168 |
| 1000 | 30.182 | 0.004 | 21.868 | 14 | 9985.513 | 15289.23 | 0.388719 | 5303.722 | 0.563351 |
| 1000 | 30.182 | 0.004 | 21.868 | 16 | 10694.41 | 15823.53 | 0.397671 | 5129.114 | 0.544804 |
| 1000 | 30.182 | 0.004 | 21.868 | 18 | 11339.93 | 16279.76 | 0.404295 | 4939.831 | 0.524699 |
| 1000 | 30.182 | 0.004 | 21.868 | 20 | 11936.37 | 16676.27 | 0.408945 | 4739.896 | 0.503462 |
| 1000 | 30.182 | 0.004 | 21.868 | 22 | 12488 | 17025.74 | 0.412151 | 4537.743 | 0.48199 |
| 1000 | 30.182 | 0.004 | 21.868 | 24 | 13003.34 | 17337.33 | 0.414045 | 4333.982 | 0.460347 |
| 1000 | 30.182 | 0.005 | 21.868 | 2 | 1994.19 | 5046.816 | 0.135462 | 3052.626 | 0.321174 |
| 1000 | 30.182 | 0.005 | 21.868 | 4 | 4384.446 | 9315.911 | 0.24634 | 4931.465 | 0.51885 |
| 1000 | 30.182 | 0.005 | 21.868 | 6 | 5992.912 | 11496.3 | 0.300308 | 5503.385 | 0.579023 |
| 1000 | 30.182 | 0.005 | 21.868 | 8 | 7239.43 | 12916.3 | 0.333666 | 5676.873 | 0.597276 |
| 1000 | 30.182 | 0.005 | 21.868 | 10 | 8270.923 | 13948.3 | 0.356443 | 5677.377 | 0.597329 |
| 1000 | 30.182 | 0.005 | 21.868 | 12 | 9157.901 | 14749.65 | 0.372927 | 5591.748 | 0.58832 |
| 1000 | 30.182 | 0.005 | 21.868 | 14 | 9940.169 | 15399.03 | 0.38522 | 5458.857 | 0.574338 |
| 1000 | 30.182 | 0.005 | 21.868 | 16 | 10642.61 | 15941.43 | 0.394511 | 5298.82 | 0.557501 |
| 1000 | 30.182 | 0.005 | 21.868 | 18 | 11281.89 | 16404.83 | 0.401534 | 5122.938 | 0.538996 |
| 1000 | 30.182 | 0.005 | 21.868 | 20 | 11871.93 | 16807.76 | 0.406665 | 4935.83 | 0.51931 |
| 1000 | 30.182 | 0.005 | 21.868 | 22 | 12417.63 | 17163.03 | 0.410398 | 4745.402 | 0.499274 |
| 1000 | 30.182 | 0.005 | 21.868 | 24 | 12927.22 | 17479.9 | 0.412886 | 4552.684 | 0.478998 |
| 1000 | 30.182 | 0.006 | 21.868 | 2 | 1992.408 | 5057.619 | 0.133179 | 3065.211 | 0.319473 |
| 1000 | 30.182 | 0.006 | 21.868 | 4 | 4375.651 | 9353.552 | 0.24274 | 4977.901 | 0.518823 |
| 1000 | 30.182 | 0.006 | 21.868 | 6 | 5976.628 | 11554.3 | 0.29634 | 5577.668 | 0.581334 |
| 1000 | 30.182 | 0.006 | 21.868 | 8 | 7215.836 | 12990.12 | 0.329631 | 5774.284 | 0.601826 |
| 1000 | 30.182 | 0.006 | 21.868 | 10 | 8240.311 | 14034.87 | 0.352487 | 5794.555 | 0.603939 |
| 1000 | 30.182 | 0.006 | 21.868 | 12 | 9120.568 | 14846.87 | 0.369142 | 5726.299 | 0.596825 |
| 1000 | 30.182 | 0.006 | 21.868 | 14 | 9896.394 | 15505.37 | 0.381672 | 5608.978 | 0.584597 |
| 1000 | 30.182 | 0.006 | 21.868 | 16 | 10592.64 | 16055.74 | 0.391258 | 5463.095 | 0.569393 |
| 1000 | 30.182 | 0.006 | 21.868 | 18 | 11225.97 | 16526.2 | 0.398626 | 5300.229 | 0.552418 |
| 1000 | 30.182 | 0.006 | 21.868 | 20 | 11808.14 | 16935.44 | 0.404252 | 5127.308 | 0.534395 |
| 1000 | 30.182 | 0.006 | 21.868 | 22 | 12349.99 | 17296.44 | 0.408357 | 4946.453 | 0.515545 |
| 1000 | 30.182 | 0.006 | 21.868 | 24 | 12854.1 | 17618.53 | 0.41135 | 4764.431 | 0.496574 |
| 1000 | 30.182 | 0.007 | 21.868 | 2 | 1990.662 | 5067.912 | 0.130966 | 3077.251 | 0.317747 |
| 1000 | 30.182 | 0.007 | 21.868 | 4 | 4367.083 | 9389.652 | 0.239226 | 5022.569 | 0.518614 |
| 1000 | 30.182 | 0.007 | 21.868 | 6 | 5960.804 | 11610.11 | 0.292446 | 5649.308 | 0.583329 |
| 1000 | 30.182 | 0.007 | 21.868 | 8 | 7192.952 | 13061.32 | 0.32565 | 5868.37 | 0.605949 |
| 1000 | 30.182 | 0.007 | 21.868 | 10 | 8210.665 | 14118.51 | 0.348562 | 5907.847 | 0.610025 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 30.182 | 0.007 | 21.868 | 12 | 9084.46 | 14940.94 | 0.365358 | 5856.479 | 0.604721 |
| 1000 | 30.182 | 0.007 | 21.868 | 14 | 9854.099 | 15608.39 | 0.378093 | 5754.289 | 0.594169 |
| 1000 | 30.182 | 0.007 | 21.868 | 16 | 10544.41 | 16166.58 | 0.387933 | 5622.163 | 0.580526 |
| 1000 | 30.182 | 0.007 | 21.868 | 18 | 11172.03 | 16643.97 | 0.395601 | 5471.941 | 0.565015 |
| 1000 | 30.182 | 0.007 | 21.868 | 20 | 11748.69 | 17059.44 | 0.40157 | 5310.748 | 0.54837 |
| 1000 | 30.182 | 0.007 | 21.868 | 22 | 12283.02 | 17426.08 | 0.406165 | 5143.061 | 0.531056 |
| 1000 | 30.182 | 0.007 | 21.868 | 24 | 12783.79 | 17753.32 | 0.409507 | 4969.526 | 0.513137 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.008 | 21.868 | 2 | 1988.951 | 5077.731 | 0.128821 | 3088.78 | 0.316001 |
| 1000 | 30.182 | 0.008 | 21.868 | 4 | 4358.732 | 9424.293 | 0.235796 | 5065.561 | 0.518237 |
| 1000 | 30.182 | 0.008 | 21.868 | 6 | 5945.42 | 11663.85 | 0.288626 | 5718.431 | 0.58503 |
| 1000 | 30.182 | 0.008 | 21.868 | 8 | 7170.743 | 13130.02 | 0.321727 | 5959.279 | 0.60967 |
| 1000 | 30.182 | 0.008 | 21.868 | 10 | 8181.936 | 14199.36 | 0.344672 | 6017.42 | 0.615618 |
| 1000 | 30.182 | 0.008 | 21.868 | 12 | 9049.509 | 15031.98 | 0.361584 | 5982.468 | 0.612042 |
| 1000 | 30.182 | 0.008 | 21.868 | 14 | 9813.203 | 15708.19 | 0.374493 | 5894.99 | 0.603093 |
| 1000 | 30.182 | 0.008 | 21.868 | 16 | 10497.82 | 16274.05 | 0.384554 | 5776.236 | 0.590943 |
| 1000 | 30.182 | 0.008 | 21.868 | 18 | 11119.96 | 16758.27 | 0.392483 | 5638.303 | 0.576832 |
| 1000 | 30.182 | 0.008 | 21.868 | 20 | 11691.36 | 17179.86 | 0.398751 | 5488.505 | 0.561507 |
| 1000 | 30.182 | 0.008 | 21.868 | 22 | 12220.59 | 17552.05 | 0.403679 | 5331.46 | 0.54544 |
| 1000 | 30.182 | 0.008 | 21.868 | 24 | 12714.18 | 17884.37 | 0.407499 | 5170.186 | 0.528941 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.004 | 22.868 | 2 | 1990.327 | 5047.426 | 0.134101 | 3057.1 | 0.314691 |
| 1000 | 31.182 | 0.004 | 22.868 | 4 | 4367.566 | 9320.159 | 0.244035 | 4952.594 | 0.509809 |
| 1000 | 31.182 | 0.004 | 22.868 | 6 | 5963.431 | 11504.76 | 0.297685 | 5541.326 | 0.570412 |
| 1000 | 31.182 | 0.004 | 22.868 | 8 | 7198.501 | 12928.94 | 0.330959 | 5730.435 | 0.589879 |
| 1000 | 31.182 | 0.004 | 22.868 | 10 | 8219.587 | 13964.59 | 0.353761 | 5745.006 | 0.591379 |
| 1000 | 31.182 | 0.004 | 22.868 | 12 | 9097.027 | 14769.33 | 0.370347 | 5672.306 | 0.583895 |
| 1000 | 31.182 | 0.004 | 22.868 | 14 | 9870.483 | 15421.85 | 0.3828 | 5551.371 | 0.571446 |
| 1000 | 31.182 | 0.004 | 22.868 | 16 | 10564.72 | 15967.17 | 0.3923 | 5402.456 | 0.556117 |
| 1000 | 31.182 | 0.004 | 22.868 | 18 | 11196.33 | 16433.3 | 0.399574 | 5236.977 | 0.539083 |
| 1000 | 31.182 | 0.004 | 22.868 | 20 | 11779.13 | 16838.78 | 0.405001 | 5059.65 | 0.520829 |
| 1000 | 31.182 | 0.004 | 22.868 | 22 | 12318 | 17196.45 | 0.409071 | 4878.45 | 0.502177 |
| 1000 | 31.182 | 0.004 | 22.868 | 24 | 12821.11 | 17515.59 | 0.411937 | 4694.474 | 0.483239 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.005 | 22.868 | 2 | 1988.623 | 5058.184 | 0.131867 | 3069.562 | 0.313074 |
| 1000 | 31.182 | 0.005 | 22.868 | 4 | 4359.169 | 9357.526 | 0.24051 | 4998.358 | 0.509797 |
| 1000 | 31.182 | 0.005 | 22.868 | 6 | 5947.89 | 11562.25 | 0.293791 | 5614.356 | 0.572625 |
| 1000 | 31.182 | 0.005 | 22.868 | 8 | 7175.988 | 13002.05 | 0.326989 | 5826.058 | 0.594217 |
| 1000 | 31.182 | 0.005 | 22.868 | 10 | 8190.378 | 14050.27 | 0.349855 | 5859.894 | 0.597668 |
| 1000 | 31.182 | 0.005 | 22.868 | 12 | 9061.405 | 14865.51 | 0.366591 | 5804.106 | 0.591978 |
| 1000 | 31.182 | 0.005 | 22.868 | 14 | 9828.711 | 15527.02 | 0.379257 | 5698.31 | 0.581187 |
| 1000 | 31.182 | 0.005 | 22.868 | 16 | 10517.04 | 16080.18 | 0.389021 | 5563.148 | 0.567402 |
| 1000 | 31.182 | 0.005 | 22.868 | 18 | 11142.95 | 16553.26 | 0.396606 | 5410.308 | 0.551813 |
| 1000 | 31.182 | 0.005 | 22.868 | 20 | 11718.15 | 16964.96 | 0.402485 | 5246.811 | 0.535138 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 31.182 | 0.005 | 22.868 | 22 | 12253.42 | 17328.26 | 0.406879 | 5074.843 | 0.517598 |
| 1000 | 31.182 | 0.005 | 22.868 | 24 | 12751.29 | 17652.54 | 0.410196 | 4901.243 | 0.499892 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.006 | 22.868 | 2 | 1986.953 | 5068.438 | 0.129701 | 3081.485 | 0.311431 |
| 1000 | 31.182 | 0.006 | 22.868 | 4 | 4350.983 | 9393.374 | 0.237067 | 5042.39 | 0.50961 |
| 1000 | 31.182 | 0.006 | 22.868 | 6 | 5932.779 | 11617.59 | 0.289969 | 5684.812 | 0.574537 |
| 1000 | 31.182 | 0.006 | 22.868 | 8 | 7154.136 | 13072.59 | 0.323073 | 5918.45 | 0.59815 |
| 1000 | 31.182 | 0.006 | 22.868 | 10 | 8162.07 | 14133.09 | 0.345981 | 5971.017 | 0.603462 |
| 1000 | 31.182 | 0.006 | 22.868 | 12 | 9026.924 | 14958.6 | 0.362841 | 5931.677 | 0.599486 |
| 1000 | 31.182 | 0.006 | 22.868 | 14 | 9788.32 | 15628.93 | 0.375689 | 5840.607 | 0.590282 |
| 1000 | 31.182 | 0.006 | 22.868 | 16 | 10470.97 | 16189.79 | 0.385682 | 5718.82 | 0.577974 |
| 1000 | 31.182 | 0.006 | 22.868 | 18 | 11091.43 | 16669.7 | 0.393537 | 5578.268 | 0.563769 |
| 1000 | 31.182 | 0.006 | 22.868 | 20 | 11661.36 | 17087.53 | 0.399724 | 5426.163 | 0.548396 |
| 1000 | 31.182 | 0.006 | 22.868 | 22 | 12189.33 | 17456.39 | 0.404566 | 5267.054 | 0.532316 |
| 1000 | 31.182 | 0.006 | 22.868 | 24 | 12684.1 | 17785.73 | 0.408188 | 5101.625 | 0.515597 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.007 | 22.868 | 2 | 1985.316 | 5078.22 | 0.1276 | 3092.904 | 0.309767 |
| 1000 | 31.182 | 0.007 | 22.868 | 4 | 4343.001 | 9427.782 | 0.233705 | 5084.781 | 0.509262 |
| 1000 | 31.182 | 0.007 | 22.868 | 6 | 5918.077 | 11670.89 | 0.28622 | 5752.812 | 0.576169 |
| 1000 | 31.182 | 0.007 | 22.868 | 8 | 7132.915 | 13140.67 | 0.319213 | 6007.753 | 0.601702 |
| 1000 | 31.182 | 0.007 | 22.868 | 10 | 8134.617 | 14213.15 | 0.342142 | 6078.533 | 0.608791 |
| 1000 | 31.182 | 0.007 | 22.868 | 12 | 8993.525 | 15048.72 | 0.359103 | 6055.194 | 0.606453 |
| 1000 | 31.182 | 0.007 | 22.868 | 14 | 9749.235 | 15727.68 | 0.372107 | 5978.448 | 0.598767 |
| 1000 | 31.182 | 0.007 | 22.868 | 16 | 10426.44 | 16296.11 | 0.382298 | 5869.673 | 0.587873 |
| 1000 | 31.182 | 0.007 | 22.868 | 18 | 11041.66 | 16782.73 | 0.390389 | 5741.072 | 0.574993 |
| 1000 | 31.182 | 0.007 | 22.868 | 20 | 11606.55 | 17206.59 | 0.396845 | 5600.042 | 0.560868 |
| 1000 | 31.182 | 0.007 | 22.868 | 22 | 12129.64 | 17580.92 | 0.401988 | 5451.273 | 0.545968 |
| 1000 | 31.182 | 0.007 | 22.868 | 24 | 12617.42 | 17915.26 | 0.406047 | 5297.84 | 0.530601 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.008 | 22.868 | 2 | 1983.71 | 5087.561 | 0.125562 | 3103.85 | 0.308087 |
| 1000 | 31.182 | 0.008 | 22.868 | 4 | 4335.214 | 9460.828 | 0.230423 | 5125.614 | 0.508766 |
| 1000 | 31.182 | 0.008 | 22.868 | 6 | 5903.767 | 11722.24 | 0.282542 | 5818.471 | 0.577539 |
| 1000 | 31.182 | 0.008 | 22.868 | 8 | 7112.294 | 13206.4 | 0.315411 | 6094.101 | 0.604898 |
| 1000 | 31.182 | 0.008 | 22.868 | 10 | 8107.978 | 14290.57 | 0.338344 | 6182.593 | 0.613681 |
| 1000 | 31.182 | 0.008 | 22.868 | 12 | 8961.151 | 15135.97 | 0.355385 | 6174.819 | 0.61291 |
| 1000 | 31.182 | 0.008 | 22.868 | 14 | 9711.387 | 15823.4 | 0.36852 | 6112.011 | 0.606675 |
| 1000 | 31.182 | 0.008 | 22.868 | 16 | 10383.35 | 16399.25 | 0.378884 | 6015.897 | 0.597135 |
| 1000 | 31.182 | 0.008 | 22.868 | 18 | 10993.54 | 16892.46 | 0.387179 | 5898.923 | 0.585524 |
| 1000 | 31.182 | 0.008 | 22.868 | 20 | 11553.59 | 17322.25 | 0.39387 | 5768.666 | 0.572595 |
| 1000 | 31.182 | 0.008 | 22.868 | 22 | 12072.01 | 17701.96 | 0.399276 | 5629.953 | 0.558826 |
| 1000 | 31.182 | 0.008 | 22.868 | 24 | 12555.27 | 18041.23 | 0.403625 | 5485.96 | 0.544534 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.004 | 23.868 | 2 | 1984.996 | 5058.747 | 0.130579 | 3073.75 | 0.306927 |
| 1000 | 32.182 | 0.004 | 23.868 | 4 | 4343.362 | 9361.456 | 0.238311 | 5018.095 | 0.501078 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 32.182 | 0.004 | 23.868 | 6 | 5920.309 | 11570.09 | 0.291272 | 5649.779 | 0.564154 |
| 1000 | 32.182 | 0.004 | 23.868 | 8 | 7137.717 | 13013.81 | 0.324369 | 5876.088 | 0.586752 |
| 1000 | 32.182 | 0.004 | 23.868 | 10 | 8142.394 | 14065.43 | 0.347231 | 5923.04 | 0.59144 |
| 1000 | 32.182 | 0.004 | 23.868 | 12 | 9004.521 | 14883.84 | 0.364035 | 5879.315 | 0.587074 |
| 1000 | 32.182 | 0.004 | 23.868 | 14 | 9763.604 | 15548.28 | 0.376818 | 5784.678 | 0.577624 |
| 1000 | 32.182 | 0.004 | 23.868 | 16 | 10444.28 | 16104.18 | 0.386741 | 5659.9 | 0.565165 |
| 1000 | 32.182 | 0.004 | 23.868 | 18 | 11063.03 | 16579.81 | 0.394519 | 5516.777 | 0.550873 |
| 1000 | 32.182 | 0.004 | 23.868 | 20 | 11631.48 | 16993.89 | 0.400623 | 5362.417 | 0.53546 |
| 1000 | 32.182 | 0.004 | 23.868 | 22 | 12160.37 | 17359.45 | 0.405277 | 5199.081 | 0.51915 |
| 1000 | 32.182 | 0.004 | 23.868 | 24 | 12652.19 | 17685.85 | 0.408883 | 5033.656 | 0.502632 |
| 1000 | 32.182 | 0.005 | 23.868 | 2 | 1983.398 | 5068.961 | 0.128458 | 3085.563 | 0.305362 |
| 1000 | 32.182 | 0.005 | 23.868 | 4 | 4335.536 | 9397.056 | 0.234938 | 5061.52 | 0.500912 |
| 1000 | 32.182 | 0.005 | 23.868 | 6 | 5905.867 | 11624.97 | 0.287521 | 5719.103 | 0.56599 |
| 1000 | 32.182 | 0.005 | 23.868 | 8 | 7116.837 | 13083.7 | 0.320517 | 5966.864 | 0.59051 |
| 1000 | 32.182 | 0.005 | 23.868 | 10 | 8115.346 | 14147.44 | 0.343409 | 6032.094 | 0.596965 |
| 1000 | 32.182 | 0.005 | 23.868 | 12 | 8971.575 | 14975.97 | 0.360321 | 6004.399 | 0.594224 |
| 1000 | 32.182 | 0.005 | 23.868 | 14 | 9725.01 | 15649.11 | 0.373267 | 5924.098 | 0.586277 |
| 1000 | 32.182 | 0.005 | 23.868 | 16 | 10400.26 | 16212.59 | 0.383396 | 5812.332 | 0.575216 |
| 1000 | 32.182 | 0.005 | 23.868 | 18 | 11013.79 | 16694.95 | 0.391417 | 5681.156 | 0.562235 |
| 1000 | 32.182 | 0.005 | 23.868 | 20 | 11577.21 | 17115.08 | 0.397799 | 5537.866 | 0.548054 |
| 1000 | 32.182 | 0.005 | 23.868 | 22 | 12099.02 | 17486.1 | 0.402863 | 5387.082 | 0.533132 |
| 1000 | 32.182 | 0.005 | 23.868 | 24 | 12587.96 | 17817.49 | 0.406736 | 5229.535 | 0.51754 |
| 1000 | 32.182 | 0.006 | 23.868 | 2 | 1981.83 | 5078.706 | 0.1264 | 3096.877 | 0.303776 |
| 1000 | 32.182 | 0.006 | 23.868 | 4 | 4327.9 | 9431.235 | 0.231643 | 5103.335 | 0.500592 |
| 1000 | 32.182 | 0.006 | 23.868 | 6 | 5891.808 | 11677.84 | 0.28384 | 5786.03 | 0.567558 |
| 1000 | 32.182 | 0.006 | 23.868 | 8 | 7096.546 | 13151.18 | 0.31672 | 6054.635 | 0.593906 |
| 1000 | 32.182 | 0.006 | 23.868 | 10 | 8089.098 | 14226.74 | 0.339624 | 6137.647 | 0.602049 |
| 1000 | 32.182 | 0.006 | 23.868 | 12 | 8939.64 | 15065.19 | 0.356622 | 6125.554 | 0.600863 |
| 1000 | 32.182 | 0.006 | 23.868 | 14 | 9687.637 | 15746.85 | 0.369707 | 6059.208 | 0.594355 |
| 1000 | 32.182 | 0.006 | 23.868 | 16 | 10357.67 | 16317.78 | 0.380014 | 5960.11 | 0.584634 |
| 1000 | 32.182 | 0.006 | 23.868 | 18 | 10966.2 | 16806.76 | 0.388248 | 5840.561 | 0.572907 |
| 1000 | 32.182 | 0.006 | 23.868 | 20 | 11524.78 | 17232.83 | 0.394873 | 5708.042 | 0.559908 |
| 1000 | 32.182 | 0.006 | 23.868 | 22 | 12041.93 | 17609.24 | 0.400208 | 5567.309 | 0.546104 |
| 1000 | 32.182 | 0.006 | 23.868 | 24 | 12524.06 | 17945.55 | 0.404483 | 5421.491 | 0.5318 |
| 1000 | 32.182 | 0.007 | 23.868 | 2 | 1980.292 | 5088.014 | 0.124403 | 3107.722 | 0.302172 |
| 1000 | 32.182 | 0.007 | 23.868 | 4 | 4320.446 | 9464.07 | 0.228424 | 5143.624 | 0.500129 |
| 1000 | 32.182 | 0.007 | 23.868 | 6 | 5878.115 | 11728.79 | 0.280229 | 5850.671 | 0.568877 |
| 1000 | 32.182 | 0.007 | 23.868 | 8 | 7076.817 | 13216.34 | 0.312979 | 6139.527 | 0.596963 |
| 1000 | 32.182 | 0.007 | 23.868 | 10 | 8063.609 | 14303.45 | 0.335879 | 6239.842 | 0.606717 |
| 1000 | 32.182 | 0.007 | 23.868 | 12 | 8908.664 | 15151.6 | 0.352945 | 6242.937 | 0.607018 |
| 1000 | 32.182 | 0.007 | 23.868 | 14 | 9651.421 | 15841.6 | 0.366146 | 6190.179 | 0.601888 |
| 1000 | 32.182 | 0.007 | 23.868 | 16 | 10316.44 | 16419.85 | 0.376608 | 6103.413 | 0.593452 |
| 1000 | 32.182 | 0.007 | 23.868 | 18 | 10920.14 | 16915.33 | 0.385027 | 5995.184 | 0.582928 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 32.182 | 0.007 | 23.868 | 20 | 11474.09 | 17347.24 | 0.391865 | 5873.148 | 0.571062 |
| 1000 | 32.182 | 0.007 | 23.868 | 22 | 11986.76 | 17728.96 | 0.397438 | 5742.196 | 0.55833 |
| 1000 | 32.182 | 0.007 | 23.868 | 24 | 12464.56 | 18070.12 | 0.401974 | 5605.559 | 0.545044 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.008 | 23.868 | 2 | 1978.783 | 5096.911 | 0.122463 | 3118.128 | 0.300554 |
| 1000 | 32.182 | 0.008 | 23.868 | 4 | 4313.168 | 9495.629 | 0.225281 | 5182.461 | 0.499534 |
| 1000 | 32.182 | 0.008 | 23.868 | 6 | 5864.773 | 11777.9 | 0.276687 | 5913.13 | 0.569962 |
| 1000 | 32.182 | 0.008 | 23.868 | 8 | 7057.624 | 13279.29 | 0.309296 | 6221.665 | 0.599702 |
| 1000 | 32.182 | 0.008 | 23.868 | 10 | 8038.846 | 14377.66 | 0.332176 | 6338.817 | 0.610994 |
| 1000 | 32.182 | 0.008 | 23.868 | 12 | 8878.601 | 15235.3 | 0.349293 | 6356.698 | 0.612717 |
| 1000 | 32.182 | 0.008 | 23.868 | 14 | 9616.304 | 15933.48 | 0.362593 | 6317.172 | 0.608907 |
| 1000 | 32.182 | 0.008 | 23.868 | 16 | 10276.49 | 16518.91 | 0.373188 | 6242.415 | 0.601702 |
| 1000 | 32.182 | 0.008 | 23.868 | 18 | 10875.56 | 17020.77 | 0.381769 | 6145.208 | 0.592332 |
| 1000 | 32.182 | 0.008 | 23.868 | 20 | 11425.04 | 17458.42 | 0.388792 | 6033.38 | 0.581553 |
| 1000 | 32.182 | 0.008 | 23.868 | 22 | 11933.41 | 17845.36 | 0.394573 | 5911.948 | 0.569848 |
| 1000 | 32.182 | 0.008 | 23.868 | 24 | 12407.06 | 18191.3 | 0.399338 | 5784.246 | 0.557539 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 6023.558 | 0.146347 | 4013.566 | 0.455332 |
| 1200 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 11060.6 | 0.265914 | 6609.4 | 0.749824 |
| 1200 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 13608.67 | 0.324402 | 7495.675 | 0.85037 |
| 1200 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 15256.83 | 0.360929 | 7846.957 | 0.890223 |
| 1200 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 16450.47 | 0.386397 | 7961.913 | 0.903264 |
| 1200 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 17375.16 | 0.405362 | 7955.308 | 0.902515 |
| 1200 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 18120.55 | 0.419912 | 7876.602 | 0.893586 |
| 1200 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 18741.57 | 0.43136 | 7753.436 | 0.879613 |
| 1200 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 19270.95 | 0.440595 | 7605.103 | 0.862785 |
| 1200 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 19730.31 | 0.448085 | 7439.729 | 0.844023 |
| 1200 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 20134.62 | 0.454186 | 7263.443 | 0.824024 |
| 1200 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 20494.61 | 0.459148 | 7080.289 | 0.803246 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 6040.985 | 0.143336 | 4033.169 | 0.452931 |
| 1200 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 11120.86 | 0.26118 | 6680.195 | 0.750196 |
| 1200 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 13701.09 | 0.319154 | 7607.78 | 0.854365 |
| 1200 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 15373.99 | 0.355526 | 7992.827 | 0.897606 |
| 1200 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 16587.53 | 0.380999 | 8136.418 | 0.913732 |
| 1200 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 17528.93 | 0.400065 | 8154.925 | 0.91581 |
| 1200 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 18288.43 | 0.414771 | 8098.43 | 0.909466 |
| 1200 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 18921.73 | 0.426482 | 7997.446 | 0.898125 |
| 1200 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 19461.96 | 0.435904 | 7865.869 | 0.883349 |
| 1200 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 19931.02 | 0.443665 | 7717.624 | 0.866701 |
| 1200 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 20344.08 | 0.450065 | 7557.318 | 0.848698 |
| 1200 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 20712.05 | 0.455355 | 7389.167 | 0.829815 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 6057.384 | 0.140437 | 4051.692 | 0.450458 |
| 1200 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 11178.04 | 0.25658 | 6747.616 | 0.750185 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 13789.2 | 0.314025 | 7714.955 | 0.857732 |
| 1200 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 15486.02 | 0.35022 | 8132.609 | 0.904166 |
| 1200 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 16718.9 | 0.375674 | 8303.904 | 0.92321 |
| 1200 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 17676.58 | 0.394812 | 8346.732 | 0.927971 |
| 1200 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 18449.87 | 0.409644 | 8311.76 | 0.924083 |
| 1200 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 19095.19 | 0.421521 | 8230.245 | 0.915021 |
| 1200 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 19646.06 | 0.431154 | 8116.865 | 0.902415 |
| 1200 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 20124.65 | 0.439145 | 7985.197 | 0.887777 |
| 1200 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 20546.32 | 0.445799 | 7840.347 | 0.871673 |
| 1200 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 20922.15 | 0.451366 | 7686.699 | 0.85459 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 6072.838 | 0.137644 | 4069.22 | 0.447925 |
| 1200 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 11232.36 | 0.252112 | 6811.882 | 0.749827 |
| 1200 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 13873.24 | 0.309017 | 7817.482 | 0.86052 |
| 1200 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 15593.21 | 0.345014 | 8266.624 | 0.90996 |
| 1200 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 16844.85 | 0.370427 | 8464.72 | 0.931766 |
| 1200 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 17816.59 | 0.389532 | 8529.32 | 0.938877 |
| 1200 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 18605.13 | 0.404544 | 8516.985 | 0.937519 |
| 1200 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 19262.22 | 0.416558 | 8454.34 | 0.930623 |
| 1200 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 19823.51 | 0.426415 | 8360.18 | 0.920259 |
| 1200 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 20311.45 | 0.434554 | 8242.925 | 0.907351 |
| 1200 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 20741.59 | 0.441425 | 8113.033 | 0.893053 |
| 1200 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 21125.15 | 0.447229 | 7973.415 | 0.877685 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 6087.423 | 0.134953 | 4085.832 | 0.445342 |
| 1200 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 11284 | 0.247772 | 6873.194 | 0.749155 |
| 1200 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 13953.46 | 0.304127 | 7915.624 | 0.862776 |
| 1200 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 15695.79 | 0.339912 | 8395.174 | 0.915045 |
| 1200 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 16965.63 | 0.365263 | 8619.198 | 0.939463 |
| 1200 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 17952.68 | 0.38439 | 8706.481 | 0.948977 |
| 1200 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 18754.47 | 0.39948 | 8714.479 | 0.949848 |
| 1200 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 19423.06 | 0.411607 | 8670.128 | 0.945014 |
| 1200 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 19994.56 | 0.421604 | 8592.715 | 0.936577 |
| 1200 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 20491.67 | 0.429965 | 8493.01 | 0.925709 |
| 1200 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 20930.13 | 0.436972 | 8375.851 | 0.912939 |
| 1200 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 21321.28 | 0.442978 | 8249.815 | 0.899202 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 7041.256 | 0.146033 | 5031.263 | 0.570787 |
| 1400 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 12951.32 | 0.266602 | 8500.129 | 0.964324 |
| 1400 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 15949.24 | 0.326418 | 9836.246 | 1.115904 |
| 1400 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 17891.44 | 0.364338 | 10481.57 | 1.189114 |
| 1400 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 19299.57 | 0.391231 | 10811.01 | 1.22649 |
| 1400 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 20389.72 | 0.411581 | 10969.86 | 1.24451 |
| 1400 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 21270.92 | 0.427642 | 11026.97 | 1.250989 |
| 1400 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 22005.38 | 0.440651 | 11017.24 | 1.249886 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 22631.68 | 0.451477 | 10965.83 | 1.244054 |
| 1400 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 23175.33 | 0.460609 | 10884.74 | 1.234854 |
| 1400 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 23655.37 | 0.46847 | 10784.2 | 1.223447 |
| 1400 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 24081.37 | 0.475183 | 10667.05 | 1.210157 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 7063.902 | 0.142669 | 5056.087 | 0.567806 |
| 1400 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 13030.18 | 0.261251 | 8589.523 | 0.964616 |
| 1400 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 16070.61 | 0.320413 | 9977.297 | 1.120465 |
| 1400 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 18045.65 | 0.358071 | 10664.49 | 1.197638 |
| 1400 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 19480.28 | 0.384869 | 11029.17 | 1.238593 |
| 1400 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 20592.55 | 0.405214 | 11218.54 | 1.259859 |
| 1400 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 21492.66 | 0.421324 | 11302.66 | 1.269306 |
| 1400 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 22243.6 | 0.434463 | 11319.32 | 1.271177 |
| 1400 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 22884.48 | 0.445364 | 11288.4 | 1.267704 |
| 1400 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 23441.17 | 0.454628 | 11227.78 | 1.260897 |
| 1400 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 23933.25 | 0.462642 | 11146.49 | 1.251767 |
| 1400 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 24369.96 | 0.469514 | 11047.08 | 1.240604 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 7085.03 | 0.139443 | 5079.339 | 0.56471 |
| 1400 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 13104.43 | 0.256071 | 8674.008 | 0.964357 |
| 1400 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 16185.45 | 0.314569 | 10111.21 | 1.124143 |
| 1400 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 18192.08 | 0.351943 | 10838.66 | 1.205019 |
| 1400 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 19652.32 | 0.378627 | 11237.33 | 1.249342 |
| 1400 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 20786.03 | 0.398945 | 11456.18 | 1.273673 |
| 1400 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 21704.53 | 0.415083 | 11566.42 | 1.28593 |
| 1400 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 22471.54 | 0.428283 | 11606.59 | 1.290395 |
| 1400 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 23126.66 | 0.43928 | 11597.46 | 1.289381 |
| 1400 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 23696.11 | 0.448651 | 11556.66 | 1.284844 |
| 1400 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 24198.08 | 0.456718 | 11492.11 | 1.277667 |
| 1400 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 24647.21 | 0.463799 | 11411.76 | 1.268735 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 7104.78 | 0.13635 | 5101.163 | 0.561518 |
| 1400 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 13174.43 | 0.251059 | 8753.95 | 0.963603 |
| 1400 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 16294.23 | 0.308883 | 10238.47 | 1.127014 |
| 1400 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 18331.2 | 0.345958 | 11004.62 | 1.211349 |
| 1400 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 19816.16 | 0.372508 | 11436.04 | 1.258838 |
| 1400 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 20970.64 | 0.392782 | 11683.37 | 1.286063 |
| 1400 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 21907.01 | 0.408927 | 11818.86 | 1.300978 |
| 1400 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 22689.65 | 0.42217 | 11881.78 | 1.307903 |
| 1400 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 23358.66 | 0.433273 | 11895.33 | 1.309395 |
| 1400 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 23940.59 | 0.442698 | 11872.07 | 1.306834 |
| 1400 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 24453.87 | 0.450865 | 11825.31 | 1.301688 |
| 1400 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 24911.79 | 0.457994 | 11760.06 | 1.294505 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 7123.278 | 0.133382 | 5121.687 | 0.558246 |
| 1400 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 13240.49 | 0.246209 | 8829.685 | 0.962405 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 16397.33 | 0.303354 | 10359.49 | 1.129149 |
| 1400 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 18463.46 | 0.340117 | 11162.85 | 1.216712 |
| 1400 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 19972.28 | 0.366517 | 11625.84 | 1.267177 |
| 1400 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 21146.86 | 0.386729 | 11900.66 | 1.297131 |
| 1400 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 22100.56 | 0.402864 | 12060.56 | 1.31456 |
| 1400 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 22898.41 | 0.416132 | 12145.48 | 1.323816 |
| 1400 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 23580.95 | 0.427284 | 12179.11 | 1.327481 |
| 1400 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 24175.06 | 0.436817 | 12176.4 | 1.327186 |
| 1400 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 24699.4 | 0.445032 | 12145.13 | 1.323777 |
| 1400 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 25167.44 | 0.452253 | 12095.97 | 1.31842 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 8062.361 | 0.145318 | 6052.368 | 0.68663 |
| 1600 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 14853.74 | 0.26619 | 10402.54 | 1.180149 |
| 1600 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 18307.93 | 0.326678 | 12194.93 | 1.383492 |
| 1600 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 20549.2 | 0.365337 | 13139.32 | 1.490632 |
| 1600 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 22175.92 | 0.392982 | 13687.37 | 1.552806 |
| 1600 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 23436.34 | 0.414086 | 14016.48 | 1.590144 |
| 1600 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 24455.85 | 0.430902 | 14211.9 | 1.612314 |
| 1600 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 25306.05 | 0.444678 | 14317.92 | 1.624341 |
| 1600 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 26031.39 | 0.456266 | 14365.55 | 1.629745 |
| 1600 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 26661.26 | 0.466166 | 14370.68 | 1.630326 |
| 1600 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 27215.99 | 0.474739 | 14344.82 | 1.627393 |
| 1600 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 27710.22 | 0.482245 | 14295.9 | 1.621843 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 8090.607 | 0.14162 | 6082.791 | 0.683107 |
| 1600 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 14952.81 | 0.260263 | 10512.15 | 1.18053 |
| 1600 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 18460.91 | 0.319983 | 12367.6 | 1.3889 |
| 1600 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 20744.02 | 0.3583 | 13362.85 | 1.500669 |
| 1600 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 22404.61 | 0.385787 | 13953.5 | 1.566999 |
| 1600 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 23693.34 | 0.406829 | 14319.34 | 1.608083 |
| 1600 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 24737.12 | 0.423638 | 14547.12 | 1.633663 |
| 1600 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 25608.5 | 0.437478 | 14684.22 | 1.64906 |
| 1600 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 26352.6 | 0.449094 | 14756.51 | 1.657178 |
| 1600 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 26999.27 | 0.459065 | 14785.87 | 1.660476 |
| 1600 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 27569.2 | 0.467723 | 14782.45 | 1.660091 |
| 1600 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 28077.31 | 0.475324 | 14754.42 | 1.656944 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 8116.745 | 0.138092 | 6111.054 | 0.679414 |
| 1600 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 15045.39 | 0.254548 | 10614.96 | 1.180148 |
| 1600 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 18604.64 | 0.313488 | 12530.4 | 1.393103 |
| 1600 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 20927.73 | 0.351444 | 13574.32 | 1.509163 |
| 1600 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 22620.85 | 0.378753 | 14205.86 | 1.579377 |
| 1600 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 23936.91 | 0.399712 | 14607.06 | 1.623982 |
| 1600 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 25004.17 | 0.416496 | 14866.05 | 1.652775 |
| 1600 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 25896.09 | 0.430346 | 15031.14 | 1.67113 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 26658.43 | 0.442002 | 15129.23 | 1.682035 |
| 1600 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 27321.47 | 0.452028 | 15182.02 | 1.687904 |
| 1600 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 27906.25 | 0.460752 | 15200.28 | 1.689934 |
| 1600 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 28427.91 | 0.468429 | 15192.46 | 1.689065 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 8140.994 | 0.134722 | 6137.377 | 0.67558 |
| 1600 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 15132.02 | 0.249038 | 10711.55 | 1.179088 |
| 1600 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 18739.83 | 0.307192 | 12684.07 | 1.396216 |
| 1600 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 21101.11 | 0.344771 | 13774.53 | 1.51625 |
| 1600 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 22825.47 | 0.371884 | 14445.34 | 1.590091 |
| 1600 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 24167.84 | 0.392743 | 14880.57 | 1.637999 |
| 1600 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 25257.79 | 0.409484 | 15169.64 | 1.669819 |
| 1600 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 26169.62 | 0.423327 | 15361.74 | 1.690965 |
| 1600 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 26949.66 | 0.435032 | 15486.33 | 1.70468 |
| 1600 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 27628.64 | 0.445069 | 15560.12 | 1.712802 |
| 1600 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 28227.89 | 0.453843 | 15599.33 | 1.717118 |
| 1600 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 28762.78 | 0.46158 | 15611.05 | 1.718408 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 8163.543 | 0.131503 | 6161.952 | 0.671632 |
| 1600 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 15213.23 | 0.243727 | 10802.42 | 1.177427 |
| 1600 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 18867.11 | 0.301092 | 12829.28 | 1.398347 |
| 1600 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 21264.88 | 0.338282 | 13964.26 | 1.522057 |
| 1600 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 23019.19 | 0.365184 | 14672.75 | 1.59928 |
| 1600 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 24386.9 | 0.385927 | 15140.7 | 1.650285 |
| 1600 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 25498.75 | 0.402609 | 15458.76 | 1.684951 |
| 1600 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 26429.85 | 0.41643 | 15676.92 | 1.70873 |
| 1600 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 27227.07 | 0.428138 | 15825.22 | 1.724895 |
| 1600 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 27921.53 | 0.438228 | 15922.87 | 1.735538 |
| 1600 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 28534.85 | 0.447011 | 15980.57 | 1.741828 |
| 1600 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 29082.64 | 0.454793 | 16011.18 | 1.745164 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 9086.76 | 0.144383 | 7076.767 | 0.802846 |
| 1800 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 16767.27 | 0.265181 | 12316.07 | 1.397236 |
| 1800 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 20683.89 | 0.326009 | 14570.89 | 1.65304 |
| 1800 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 23229.09 | 0.36509 | 15819.21 | 1.79466 |
| 1800 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 25078.37 | 0.393178 | 16589.82 | 1.882084 |
| 1800 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 26512.41 | 0.414728 | 17092.55 | 1.939118 |
| 1800 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 27673.11 | 0.431988 | 17429.16 | 1.977306 |
| 1800 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 28641.59 | 0.446211 | 17653.45 | 2.002751 |
| 1800 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 29468.22 | 0.458238 | 17802.37 | 2.019646 |
| 1800 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 30186.33 | 0.468573 | 17895.74 | 2.030239 |
| 1800 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 30819 | 0.477579 | 17947.83 | 2.036148 |
| 1800 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 31382.86 | 0.485516 | 17968.53 | 2.038496 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 9120.894 | 0.14037 | 7113.078 | 0.798809 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1800 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 16887.93 | 0.258709 | 12447.27 | 1.397847 |
| 1800 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 20870.81 | 0.318664 | 14777.5 | 1.659536 |
| 1800 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 23467.63 | 0.357336 | 16086.47 | 1.806535 |
| 1800 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 25358.83 | 0.385217 | 16907.72 | 1.898763 |
| 1800 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 26828 | 0.406663 | 17453.99 | 1.960109 |
| 1800 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 28018.85 | 0.42388 | 17828.85 | 2.002207 |
| 1800 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 29013.68 | 0.438126 | 18089.4 | 2.031467 |
| 1800 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 29863.68 | 0.450152 | 18267.6 | 2.051479 |
| 1800 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 30602.76 | 0.460527 | 18389.37 | 2.065154 |
| 1800 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 31254.42 | 0.469585 | 18467.66 | 2.073946 |
| 1800 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 31835.61 | 0.477584 | 18512.73 | 2.079008 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 9152.242 | 0.136557 | 7146.55 | 0.794538 |
| 1800 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 16999.85 | 0.252491 | 12569.42 | 1.397441 |
| 1800 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 21045.2 | 0.311562 | 14970.95 | 1.664438 |
| 1800 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 23691.06 | 0.349806 | 16337.65 | 1.816384 |
| 1800 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 25622.3 | 0.377458 | 17207.31 | 1.913071 |
| 1800 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 27125.17 | 0.39878 | 17795.32 | 1.978445 |
| 1800 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 28345.05 | 0.415935 | 18206.94 | 2.024208 |
| 1800 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 29365.33 | 0.430157 | 18500.39 | 2.056832 |
| 1800 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 30237.96 | 0.442191 | 18708.76 | 2.08 |
| 1800 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 30997.37 | 0.452588 | 18857.92 | 2.096583 |
| 1800 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 31667.5 | 0.461682 | 18961.52 | 2.1081 |
| 1800 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 32265.57 | 0.469726 | 19030.12 | 2.115727 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 9181.117 | 0.132931 | 7177.5 | 0.790073 |
| 1800 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 17103.86 | 0.246518 | 12683.38 | 1.396141 |
| 1800 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 21208.11 | 0.3047 | 15152.35 | 1.667916 |
| 1800 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 23900.55 | 0.342501 | 16573.97 | 1.824402 |
| 1800 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 25870.01 | 0.369906 | 17489.88 | 1.925223 |
| 1800 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 27405.17 | 0.391087 | 18117.9 | 1.994353 |
| 1800 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 28652.97 | 0.408161 | 18564.82 | 2.043548 |
| 1800 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 29697.78 | 0.422343 | 18889.9 | 2.079333 |
| 1800 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 30592.27 | 0.434388 | 19128.94 | 2.105645 |
| 1800 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 31371.38 | 0.444772 | 19302.86 | 2.124789 |
| 1800 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 32059.42 | 0.453887 | 19430.85 | 2.138878 |
| 1800 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 32673.89 | 0.461962 | 19522.16 | 2.148929 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 9207.792 | 0.129482 | 7206.201 | 0.785451 |
| 1800 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 17200.71 | 0.240782 | 12789.9 | 1.394055 |
| 1800 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 21360.53 | 0.298075 | 15322.69 | 1.67012 |
| 1800 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 24097.18 | 0.33542 | 16796.57 | 1.830768 |
| 1800 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 26103.09 | 0.362563 | 17756.66 | 1.935415 |
| 1800 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 27669.18 | 0.383587 | 18422.98 | 2.008042 |
| 1800 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 28943.78 | 0.400566 | 18903.79 | 2.060448 |
| 1800 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 30012.22 | 0.414694 | 19259.29 | 2.099196 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1800 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 30927.8 | 0.426712 | 19525.96 | 2.128263 |
| 1800 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 31725.96 | 0.437113 | 19727.3 | 2.150209 |
| 1800 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 32431.34 | 0.446214 | 19877.06 | 2.166532 |
| 1800 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 33061.73 | 0.454308 | 19990.27 | 2.178871 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 10114.36 | 0.143322 | 8104.369 | 0.919426 |
| 2000 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 18691.41 | 0.26382 | 14240.21 | 1.615526 |
| 2000 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 23076.34 | 0.324795 | 16963.34 | 1.924459 |
| 2000 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 25930.14 | 0.364123 | 18520.26 | 2.101089 |
| 2000 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 28005.83 | 0.392487 | 19517.28 | 2.214199 |
| 2000 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 29616.73 | 0.414321 | 20196.87 | 2.291298 |
| 2000 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 30921.44 | 0.431866 | 20677.49 | 2.345822 |
| 2000 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 32010.65 | 0.446375 | 21022.52 | 2.384965 |
| 2000 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 32940.76 | 0.458682 | 21274.92 | 2.4136 |
| 2000 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 33749.1 | 0.469294 | 21458.51 | 2.434429 |
| 2000 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 34461.52 | 0.478574 | 21590.34 | 2.449384 |
| 2000 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 35096.64 | 0.486782 | 21682.32 | 2.459818 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 10154.59 | 0.139007 | 8146.771 | 0.914895 |
| 2000 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 18834.81 | 0.256827 | 14394.15 | 1.616485 |
| 2000 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 23299.19 | 0.31683 | 17205.88 | 1.932247 |
| 2000 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 26215.13 | 0.355688 | 18833.96 | 2.115082 |
| 2000 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 28341.4 | 0.383801 | 19890.29 | 2.23371 |
| 2000 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 29994.79 | 0.405498 | 20620.79 | 2.315746 |
| 2000 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 31336.03 | 0.42297 | 21146.03 | 2.374731 |
| 2000 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 32457.22 | 0.437473 | 21532.94 | 2.418182 |
| 2000 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 33415.74 | 0.44976 | 21819.65 | 2.45038 |
| 2000 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 34249.57 | 0.460389 | 22036.18 | 2.474696 |
| 2000 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 34985.11 | 0.4697 | 22198.35 | 2.492908 |
| 2000 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 35641.36 | 0.477949 | 22318.48 | 2.506399 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 10191.27 | 0.134926 | 8185.575 | 0.910054 |
| 2000 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 18966.87 | 0.250134 | 14536.45 | 1.616131 |
| 2000 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 23505.68 | 0.309154 | 17431.44 | 1.937989 |
| 2000 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 26480.29 | 0.347522 | 19126.87 | 2.126484 |
| 2000 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 28654.62 | 0.375361 | 20239.63 | 2.250198 |
| 2000 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 30348.55 | 0.396898 | 21018.71 | 2.336814 |
| 2000 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 31724.79 | 0.414279 | 21586.68 | 2.39996 |
| 2000 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 32876.71 | 0.428732 | 22011.76 | 2.44722 |
| 2000 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 33862.58 | 0.441002 | 22333.39 | 2.482977 |
| 2000 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 34721.05 | 0.451632 | 22581.6 | 2.510573 |
| 2000 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 35478.96 | 0.460958 | 22772.98 | 2.53185 |
| 2000 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 36155.69 | 0.469232 | 22920.24 | 2.548223 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 10224.83 | 0.131063 | 8221.215 | 0.904962 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 2000 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 19088.79 | 0.243728 | 14668.31 | 1.614634 |
| 2000 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 23697.33 | 0.301763 | 17641.57 | 1.94192 |
| 2000 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 26727.33 | 0.339625 | 19400.75 | 2.135564 |
| 2000 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 28947.27 | 0.367172 | 20567.14 | 2.263957 |
| 2000 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 30679.85 | 0.388531 | 21392.58 | 2.354818 |
| 2000 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 32089.55 | 0.405802 | 22001.4 | 2.421835 |
| 2000 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 33270.95 | 0.420189 | 22463.08 | 2.472654 |
| 2000 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 34283.13 | 0.432443 | 22819.8 | 2.511921 |
| 2000 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 35165.33 | 0.44304 | 23096.81 | 2.542413 |
| 2000 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 35944.85 | 0.452366 | 23316.29 | 2.566573 |
| 2000 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 36641.41 | 0.460652 | 23489.67 | 2.585658 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 10255.65 | 0.127403 | 8254.06 | 0.899664 |
| 2000 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 19201.59 | 0.237599 | 14790.78 | 1.612145 |
| 2000 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 23875.52 | 0.29465 | 17837.69 | 1.944247 |
| 2000 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 26957.81 | 0.331995 | 19657.2 | 2.142567 |
| 2000 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 29221.01 | 0.359235 | 20874.57 | 2.275257 |
| 2000 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 30990.39 | 0.380401 | 21744.19 | 2.370043 |
| 2000 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 32432.06 | 0.397546 | 22392.07 | 2.440659 |
| 2000 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 33641.7 | 0.411852 | 22888.77 | 2.494798 |
| 2000 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 34679.14 | 0.424055 | 23277.29 | 2.537145 |
| 2000 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 35584.18 | 0.434644 | 23585.52 | 2.570741 |
| 2000 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 36384.53 | 0.443939 | 23830.25 | 2.597416 |
| 2000 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 37100.21 | 0.452224 | 24028.75 | 2.619051 |
| | | | | | | | | | |
| 1000 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 4951.222 | 0.157293 | 2931.959 | 0.346789 |
| 1000 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 8986.785 | 0.280066 | 4490.127 | 0.531087 |
| 1000 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 10993.02 | 0.336663 | 4794.332 | 0.567068 |
| 1000 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 12276.43 | 0.369409 | 4740.781 | 0.560734 |
| 1000 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 13199.8 | 0.39002 | 4546.395 | 0.537742 |
| 1000 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 13910.49 | 0.403014 | 4285.849 | 0.506925 |
| 1000 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 14482.28 | 0.410782 | 3995.786 | 0.472617 |
| 1000 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 14957.02 | 0.414444 | 3691.601 | 0.436638 |
| 1000 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 15360.53 | 0.414636 | 3382.118 | 0.400033 |
| 1000 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 15709.79 | 0.411664 | 3072.253 | 0.363382 |
| 1000 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 16016.53 | 0.405606 | 2764.822 | 0.32702 |
| 1000 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 16289.12 | 0.396353 | 2461.448 | 0.291137 |
| | | | | | | | | | |
| 1000 | 29.182 | 0 | 20.868 | 2 | 2011.967 | 4968.019 | 0.152494 | 2956.052 | 0.337657 |
| 1000 | 29.182 | 0 | 20.868 | 4 | 4463.175 | 9045.742 | 0.2727 | 4582.567 | 0.523447 |
| 1000 | 29.182 | 0 | 20.868 | 6 | 6138.042 | 11084.62 | 0.328864 | 4946.581 | 0.565026 |
| 1000 | 29.182 | 0 | 20.868 | 8 | 7449.14 | 12393.26 | 0.361906 | 4944.119 | 0.564745 |
| 1000 | 29.182 | 0 | 20.868 | 10 | 8542.5 | 13337.24 | 0.38326 | 4794.738 | 0.547682 |
| 1000 | 29.182 | 0 | 20.868 | 12 | 9488.641 | 14065.3 | 0.39747 | 4576.657 | 0.522772 |
| 1000 | 29.182 | 0 | 20.868 | 14 | 10330.12 | 14652.08 | 0.40663 | 4321.958 | 0.493679 |
| 1000 | 29.182 | 0 | 20.868 | 16 | 11088.02 | 15139.97 | 0.412164 | 4051.951 | 0.462837 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 29.182 | 0 | 20.868 | 18 | 11780.89 | 15555.19 | 0.414686 | 3774.298 | 0.431122 |
| 1000 | 29.182 | 0 | 20.868 | 20 | 12420.7 | 15915 | 0.414601 | 3494.303 | 0.399139 |
| 1000 | 29.182 | 0 | 20.868 | 22 | 13016.25 | 16231.31 | 0.412123 | 3215.061 | 0.367242 |
| 1000 | 29.182 | 0 | 20.868 | 24 | 13574.25 | 16512.68 | 0.407332 | 2938.429 | 0.335644 |
| | | | | | | | | | |
| 1000 | 30.182 | 0 | 21.868 | 2 | 2005.183 | 4983.77 | 0.147977 | 2978.587 | 0.328958 |
| 1000 | 30.182 | 0 | 21.868 | 4 | 4432.198 | 9101.277 | 0.265683 | 4669.079 | 0.515658 |
| 1000 | 30.182 | 0 | 21.868 | 6 | 6082.096 | 11171.17 | 0.321338 | 5089.075 | 0.562043 |
| 1000 | 30.182 | 0 | 21.868 | 8 | 7369.484 | 12503.79 | 0.354529 | 5134.301 | 0.567038 |
| 1000 | 30.182 | 0 | 21.868 | 10 | 8440.536 | 13467.42 | 0.376416 | 5026.883 | 0.555175 |
| 1000 | 30.182 | 0 | 21.868 | 12 | 9365.64 | 14212.08 | 0.391448 | 4846.437 | 0.535246 |
| 1000 | 30.182 | 0 | 21.868 | 14 | 10186.74 | 14813.2 | 0.401725 | 4626.459 | 0.510951 |
| 1000 | 30.182 | 0 | 21.868 | 16 | 10925.52 | 15313.7 | 0.408627 | 4388.174 | 0.484635 |
| 1000 | 30.182 | 0 | 21.868 | 18 | 11600.12 | 15740.16 | 0.412818 | 4140.038 | 0.45723 |
| 1000 | 30.182 | 0 | 21.868 | 20 | 12222.4 | 16110.1 | 0.414746 | 3887.701 | 0.429362 |
| 1000 | 30.182 | 0 | 21.868 | 22 | 12801.08 | 16435.63 | 0.414687 | 3634.546 | 0.401403 |
| 1000 | 30.182 | 0 | 21.868 | 24 | 13342.82 | 16725.45 | 0.412803 | 3382.627 | 0.373581 |
| | | | | | | | | | |
| 1000 | 31.182 | 0 | 22.868 | 2 | 1998.862 | 4998.576 | 0.143719 | 2999.714 | 0.320667 |
| 1000 | 31.182 | 0 | 22.868 | 4 | 4403.462 | 9153.675 | 0.258994 | 4750.213 | 0.507794 |
| 1000 | 31.182 | 0 | 22.868 | 6 | 6030.324 | 11251.15 | 0.313969 | 5220.826 | 0.558103 |
| 1000 | 31.182 | 0 | 22.868 | 8 | 7295.908 | 12608.52 | 0.347313 | 5312.608 | 0.567914 |
| 1000 | 31.182 | 0 | 22.868 | 10 | 8346.483 | 13590.9 | 0.369574 | 5244.417 | 0.560624 |
| 1000 | 31.182 | 0 | 22.868 | 12 | 9252.318 | 14351.43 | 0.385219 | 5099.111 | 0.545091 |
| 1000 | 31.182 | 0 | 22.868 | 14 | 10053.12 | 14966.28 | 0.396415 | 4913.163 | 0.525214 |
| 1000 | 31.182 | 0 | 22.868 | 16 | 10776.15 | 15478.88 | 0.404261 | 4702.727 | 0.502718 |
| 1000 | 31.182 | 0 | 22.868 | 18 | 11434.08 | 15916.13 | 0.409681 | 4482.046 | 0.479127 |
| 1000 | 31.182 | 0 | 22.868 | 20 | 12040.39 | 16295.81 | 0.413063 | 4255.419 | 0.454901 |
| 1000 | 31.182 | 0 | 22.868 | 22 | 12603.72 | 16630.2 | 0.414711 | 4026.482 | 0.430428 |
| 1000 | 31.182 | 0 | 22.868 | 24 | 13130.66 | 16928.16 | 0.414825 | 3797.496 | 0.40595 |
| | | | | | | | | | |
| 1000 | 32.182 | 0 | 23.868 | 2 | 1992.953 | 5012.512 | 0.139696 | 3019.56 | 0.312759 |
| 1000 | 32.182 | 0 | 23.868 | 4 | 4376.725 | 9203.193 | 0.252616 | 4826.468 | 0.499914 |
| 1000 | 32.182 | 0 | 23.868 | 6 | 5982.28 | 11328.41 | 0.306968 | 5346.125 | 0.553739 |
| 1000 | 32.182 | 0 | 23.868 | 8 | 7227.743 | 12707.89 | 0.340278 | 5480.147 | 0.56762 |
| 1000 | 32.182 | 0 | 23.868 | 10 | 8259.465 | 13708.18 | 0.362791 | 5448.716 | 0.564365 |
| 1000 | 32.182 | 0 | 23.868 | 12 | 9147.579 | 14483.9 | 0.378892 | 5336.321 | 0.552723 |
| 1000 | 32.182 | 0 | 23.868 | 14 | 9931.649 | 15111.92 | 0.390707 | 5180.267 | 0.536559 |
| 1000 | 32.182 | 0 | 23.868 | 16 | 10636.4 | 15636.11 | 0.399439 | 4999.712 | 0.517858 |
| 1000 | 32.182 | 0 | 23.868 | 18 | 11281.06 | 16083.73 | 0.405691 | 4802.67 | 0.497449 |
| 1000 | 32.182 | 0 | 23.868 | 20 | 11872.76 | 16472.77 | 0.410151 | 4600.008 | 0.476458 |
| 1000 | 32.182 | 0 | 23.868 | 22 | 12422.07 | 16815.7 | 0.413044 | 4393.63 | 0.455082 |
| 1000 | 32.182 | 0 | 23.868 | 24 | 12935.5 | 17121.49 | 0.414588 | 4185.989 | 0.433575 |
| | | | | | | | | | |
| 1200 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 5941.511 | 0.159615 | 3922.248 | 0.463919 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 10784.15 | 0.286245 | 6287.489 | 0.743677 |
| 1200 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 13190.38 | 0.346573 | 6991.696 | 0.826969 |
| 1200 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 14731.25 | 0.383428 | 7195.596 | 0.851086 |
| 1200 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 15840.99 | 0.408621 | 7187.591 | 0.85014 |
| 1200 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 16693.3 | 0.426658 | 7068.668 | 0.836074 |
| 1200 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 17379.18 | 0.440137 | 6892.685 | 0.815259 |
| 1200 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 17948.7 | 0.450344 | 6683.284 | 0.790491 |
| 1200 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 18432.81 | 0.458088 | 6454.401 | 0.763419 |
| 1200 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 18851.87 | 0.463892 | 6214.33 | 0.735023 |
| 1200 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 19219.91 | 0.46811 | 5968.203 | 0.705912 |
| 1200 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 19547 | 0.470986 | 5719.324 | 0.676475 |
| | | | | | | | | | |
| 1400 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 6931.931 | 0.161038 | 4912.668 | 0.581065 |
| 1400 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 12581.53 | 0.289796 | 8084.869 | 0.956269 |
| 1400 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 15388.78 | 0.352019 | 9190.097 | 1.086994 |
| 1400 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 17186.46 | 0.390728 | 9650.806 | 1.141486 |
| 1400 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 18479.49 | 0.417723 | 9826.083 | 1.162217 |
| 1400 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 19474.57 | 0.437763 | 9849.935 | 1.165039 |
| 1400 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 20275.14 | 0.453317 | 9788.647 | 1.15779 |
| 1400 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 20939.8 | 0.465709 | 9674.385 | 1.144275 |
| 1400 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 21505.91 | 0.475829 | 9527.495 | 1.126901 |
| 1400 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 21994.55 | 0.484089 | 9357.012 | 1.106736 |
| 1400 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 22423.75 | 0.49094 | 9172.048 | 1.084859 |
| 1400 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 22805.22 | 0.496646 | 8977.552 | 1.061854 |
| | | | | | | | | | |
| 1600 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 7922.653 | 0.162006 | 5903.39 | 0.698246 |
| 1600 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 14378.97 | 0.292104 | 9882.314 | 1.168868 |
| 1600 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 17587.21 | 0.355448 | 11388.52 | 1.347021 |
| 1600 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 19641.68 | 0.395201 | 12106.03 | 1.431886 |
| 1600 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 21119.42 | 0.423208 | 12466.01 | 1.474465 |
| 1600 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 22256.66 | 0.444263 | 12632.02 | 1.4941 |
| 1600 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 23171.59 | 0.460833 | 12685.1 | 1.500378 |
| 1600 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 23931.2 | 0.474258 | 12665.79 | 1.498094 |
| 1600 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 24576.83 | 0.485376 | 12598.42 | 1.490126 |
| 1600 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 25135.66 | 0.494737 | 12498.12 | 1.478263 |
| 1600 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 25626.44 | 0.502718 | 12374.73 | 1.463669 |
| 1600 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 26062.59 | 0.509589 | 12234.92 | 1.447132 |
| | | | | | | | | | |
| 1800 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 8913.939 | 0.162716 | 6894.676 | 0.815494 |
| 1800 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 16176.56 | 0.293726 | 11679.9 | 1.381484 |
| 1800 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 19785.68 | 0.357807 | 13587 | 1.607054 |
| 1800 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 22096.92 | 0.398223 | 14561.27 | 1.72229 |
| 1800 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 23759.36 | 0.426854 | 15105.96 | 1.786715 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1800 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 25038.75 | 0.448519 | 15414.11 | 1.823163 |
| 1800 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 26068.05 | 0.465684 | 15581.55 | 1.842968 |
| 1800 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 26922.61 | 0.4797 | 15657.19 | 1.851914 |
| 1800 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 27648.94 | 0.491408 | 15670.53 | 1.853491 |
| 1800 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 28277.62 | 0.501361 | 15640.08 | 1.84989 |
| 1800 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 28829.75 | 0.509941 | 15578.04 | 1.842552 |
| 1800 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 29320.42 | 0.517417 | 15492.74 | 1.832463 |
| | | | | | | | | | |
| 2000 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 9906.106 | 0.16327 | 7886.843 | 0.932846 |
| 2000 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 17974.39 | 0.294933 | 13477.73 | 1.59413 |
| 2000 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 21984.27 | 0.359531 | 15785.59 | 1.8671 |
| 2000 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 24552.22 | 0.400402 | 17016.57 | 2.012699 |
| 2000 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 26399.34 | 0.429454 | 17745.94 | 2.098968 |
| 2000 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 27820.86 | 0.451522 | 18196.22 | 2.152228 |
| 2000 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 28964.51 | 0.469074 | 18478.02 | 2.185558 |
| 2000 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 29914.02 | 0.483467 | 18648.6 | 2.205735 |
| 2000 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 30721.05 | 0.495547 | 18742.64 | 2.216857 |
| 2000 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 31419.59 | 0.505869 | 18782.05 | 2.221518 |
| 2000 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 32033.05 | 0.514814 | 18781.35 | 2.221436 |
| 2000 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 32578.24 | 0.522657 | 18750.57 | 2.217795 |

### 3.2.2 For the one inter cooler used in compression process

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 9182.17 | 0.335424 | 7270.42 | 0.824816 |
| 1000 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 15514.26 | 0.558905 | 11494.27 | 1.304004 |
| 1000 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 18241.04 | 0.648858 | 12889.46 | 1.462285 |
| 1000 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 19833.31 | 0.697416 | 13490.07 | 1.530424 |
| 1000 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 20902.23 | 0.727243 | 13761.92 | 1.561264 |
| 1000 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 21681.2 | 0.746923 | 13870.99 | 1.573638 |
| 1000 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 22278.56 | 0.760363 | 13888.55 | 1.57563 |
| 1000 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 22755.66 | 0.769797 | 13853.27 | 1.571628 |
| 1000 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 23147.31 | 0.776448 | 13785.02 | 1.563885 |
| 1000 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 23476.03 | 0.781105 | 13695.94 | 1.553779 |
| 1000 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 23756.42 | 0.784261 | 13593.09 | 1.542111 |
| 1000 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 23999.48 | 0.786303 | 13481.85 | 1.52949 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 9225.715 | 0.330175 | 7314.945 | 0.821479 |
| 1000 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 15642.92 | 0.552446 | 11627.29 | 1.305762 |
| 1000 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 18421.65 | 0.642709 | 13077.75 | 1.468651 |
| 1000 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 20048.83 | 0.691783 | 13716.37 | 1.540369 |
| 1000 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 21143.04 | 0.722137 | 14016.35 | 1.574057 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 21941.16 | 0.742311 | 14147.22 | 1.588754 |
| 1000 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 22554.35 | 0.75625 | 14183.08 | 1.592782 |
| 1000 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 23044.2 | 0.766139 | 14162.88 | 1.590513 |
| 1000 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 23446.54 | 0.773221 | 14107.53 | 1.584297 |
| 1000 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 23784.37 | 0.778285 | 14029.64 | 1.57555 |
| 1000 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 24073.11 | 0.781857 | 13937.15 | 1.565163 |
| 1000 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 24322.83 | 0.784257 | 13834.48 | 1.553633 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 9267.377 | 0.325064 | 7357.565 | 0.817998 |
| 1000 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 15767.58 | 0.546086 | 11756.2 | 1.307029 |
| 1000 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 18597.67 | 0.63662 | 13261.26 | 1.474358 |
| 1000 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 20259.68 | 0.68618 | 13937.7 | 1.549564 |
| 1000 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 21379.27 | 0.71704 | 14265.84 | 1.586045 |
| 1000 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 22196.67 | 0.737687 | 14418.54 | 1.603022 |
| 1000 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 22825.66 | 0.752096 | 14472.61 | 1.609033 |
| 1000 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 23328.38 | 0.762422 | 14467.53 | 1.608468 |
| 1000 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 23741.54 | 0.769915 | 14425.13 | 1.603754 |
| 1000 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 24088.6 | 0.77537 | 14358.5 | 1.596347 |
| 1000 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 24385.31 | 0.779311 | 14275.91 | 1.587164 |
| 1000 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 24642.72 | 0.782103 | 14182.76 | 1.576809 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 9307.261 | 0.320087 | 7398.387 | 0.814388 |
| 1000 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 15888.37 | 0.539825 | 11881.13 | 1.307832 |
| 1000 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 18769.2 | 0.63059 | 13440.1 | 1.479438 |
| 1000 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 20465.93 | 0.680609 | 14154.17 | 1.55804 |
| 1000 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 21610.64 | 0.711936 | 14510.1 | 1.59722 |
| 1000 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 22447.68 | 0.73305 | 14684.94 | 1.616465 |
| 1000 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 23092.48 | 0.747905 | 14757.14 | 1.624413 |
| 1000 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 23608.18 | 0.758648 | 14767.23 | 1.625523 |
| 1000 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 24032.28 | 0.766537 | 14737.82 | 1.622287 |
| 1000 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 24388.7 | 0.772366 | 14682.52 | 1.616199 |
| 1000 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 24693.52 | 0.776662 | 14609.9 | 1.608205 |
| 1000 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 24957.99 | 0.77979 | 14525.6 | 1.598926 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 9345.465 | 0.315241 | 7437.51 | 0.810663 |
| 1000 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 16005.4 | 0.533662 | 12002.22 | 1.308201 |
| 1000 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 18936.32 | 0.62462 | 13614.35 | 1.483918 |
| 1000 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 20667.66 | 0.675071 | 14365.86 | 1.56583 |
| 1000 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 21837.49 | 0.706843 | 14749.53 | 1.607648 |
| 1000 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 22694.17 | 0.7284 | 14946.41 | 1.629107 |
| 1000 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 23355.2 | 0.743699 | 15037.09 | 1.638991 |
| 1000 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 23883.6 | 0.754824 | 15061.99 | 1.641706 |
| 1000 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 24318.74 | 0.763091 | 15045.63 | 1.639922 |
| 1000 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 24684.64 | 0.769279 | 15001.7 | 1.635133 |
| 1000 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 24997.68 | 0.773916 | 14939.1 | 1.628311 |
| 1000 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 25269.36 | 0.777367 | 14863.74 | 1.620097 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 29.182 | 0.004 | 20.868 | 2 | 1908.646 | 9230.712 | 0.326677 | 7322.066 | 0.803334 |
| 1000 | 29.182 | 0.004 | 20.868 | 4 | 4006.727 | 15672.74 | 0.547456 | 11666.01 | 1.279926 |
| 1000 | 29.182 | 0.004 | 20.868 | 6 | 5328.643 | 18475.71 | 0.637781 | 13147.06 | 1.442418 |
| 1000 | 29.182 | 0.004 | 20.868 | 8 | 6311.55 | 20123.53 | 0.687285 | 13811.98 | 1.515368 |
| 1000 | 29.182 | 0.004 | 20.868 | 10 | 7100.698 | 21235.63 | 0.718198 | 14134.93 | 1.550801 |
| 1000 | 29.182 | 0.004 | 20.868 | 12 | 7763.342 | 22047.96 | 0.738897 | 14284.62 | 1.567224 |
| 1000 | 29.182 | 0.004 | 20.868 | 14 | 8336.434 | 22674.22 | 0.753402 | 14337.78 | 1.573057 |
| 1000 | 29.182 | 0.004 | 20.868 | 16 | 8842.566 | 23175.45 | 0.763837 | 14332.89 | 1.57252 |
| 1000 | 29.182 | 0.004 | 20.868 | 18 | 9296.607 | 23587.92 | 0.771445 | 14291.31 | 1.567958 |
| 1000 | 29.182 | 0.004 | 20.868 | 20 | 9708.888 | 23934.81 | 0.777017 | 14225.92 | 1.560784 |
| 1000 | 29.182 | 0.004 | 20.868 | 22 | 10086.89 | 24231.71 | 0.781075 | 14144.82 | 1.551886 |
| 1000 | 29.182 | 0.004 | 20.868 | 24 | 10436.23 | 24489.58 | 0.783984 | 14053.35 | 1.54185 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.005 | 20.868 | 2 | 1907.732 | 9272.037 | 0.321681 | 7364.305 | 0.800068 |
| 1000 | 29.182 | 0.005 | 20.868 | 4 | 4002.678 | 15795.85 | 0.541205 | 11793.17 | 1.281225 |
| 1000 | 29.182 | 0.005 | 20.868 | 6 | 5321.506 | 18649.31 | 0.631755 | 13327.81 | 1.447951 |
| 1000 | 29.182 | 0.005 | 20.868 | 8 | 6301.561 | 20331.44 | 0.681703 | 14029.88 | 1.524225 |
| 1000 | 29.182 | 0.005 | 20.868 | 10 | 7088.08 | 21468.37 | 0.713071 | 14380.29 | 1.562294 |
| 1000 | 29.182 | 0.005 | 20.868 | 12 | 7748.284 | 22299.91 | 0.734218 | 14551.63 | 1.580908 |
| 1000 | 29.182 | 0.005 | 20.868 | 14 | 8319.097 | 22941.71 | 0.749156 | 14622.62 | 1.588621 |
| 1000 | 29.182 | 0.005 | 20.868 | 16 | 8823.085 | 23455.68 | 0.759995 | 14632.6 | 1.589705 |
| 1000 | 29.182 | 0.005 | 20.868 | 18 | 9275.098 | 23878.86 | 0.767987 | 14603.77 | 1.586573 |
| 1000 | 29.182 | 0.005 | 20.868 | 20 | 9685.454 | 24234.93 | 0.773923 | 14549.48 | 1.580675 |
| 1000 | 29.182 | 0.005 | 20.868 | 22 | 10061.62 | 24539.78 | 0.778326 | 14478.16 | 1.572926 |
| 1000 | 29.182 | 0.005 | 20.868 | 24 | 10409.2 | 24804.56 | 0.78156 | 14395.35 | 1.56393 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.006 | 20.868 | 2 | 1906.837 | 9311.612 | 0.316814 | 7404.775 | 0.796675 |
| 1000 | 29.182 | 0.006 | 20.868 | 4 | 3998.723 | 15915.16 | 0.535051 | 11916.44 | 1.282082 |
| 1000 | 29.182 | 0.006 | 20.868 | 6 | 5314.541 | 18818.53 | 0.625791 | 13503.99 | 1.452885 |
| 1000 | 29.182 | 0.006 | 20.868 | 8 | 6291.823 | 20534.88 | 0.676157 | 14243.06 | 1.532401 |
| 1000 | 29.182 | 0.006 | 20.868 | 10 | 7075.788 | 21696.06 | 0.707931 | 14620.27 | 1.572985 |
| 1000 | 29.182 | 0.006 | 20.868 | 12 | 7733.624 | 22547.43 | 0.729533 | 14813.8 | 1.593807 |
| 1000 | 29.182 | 0.006 | 20.868 | 14 | 8302.226 | 23205.27 | 0.744906 | 14903.04 | 1.603408 |
| 1000 | 29.182 | 0.006 | 20.868 | 16 | 8804.136 | 23731.61 | 0.75611 | 14927.47 | 1.606037 |
| 1000 | 29.182 | 0.006 | 20.868 | 18 | 9254.186 | 24165.62 | 0.76447 | 14911.43 | 1.604311 |
| 1000 | 29.182 | 0.006 | 20.868 | 20 | 9662.678 | 24530.97 | 0.770754 | 14868.3 | 1.59967 |
| 1000 | 29.182 | 0.006 | 20.868 | 22 | 10037.07 | 24843.89 | 0.775488 | 14806.81 | 1.593055 |
| 1000 | 29.182 | 0.006 | 20.868 | 24 | 10382.95 | 25115.72 | 0.779037 | 14732.77 | 1.585089 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.007 | 20.868 | 2 | 1905.96 | 9349.532 | 0.312073 | 7443.572 | 0.793169 |
| 1000 | 29.182 | 0.007 | 20.868 | 4 | 3992.725 | 16030.82 | 0.52906 | 12038.09 | 1.28275 |
| 1000 | 29.182 | 0.007 | 20.868 | 6 | 5307.743 | 18983.45 | 0.619887 | 13675.7 | 1.457249 |
| 1000 | 29.182 | 0.007 | 20.868 | 8 | 6282.327 | 20733.91 | 0.670649 | 14451.58 | 1.539925 |
| 1000 | 29.182 | 0.007 | 20.868 | 10 | 7063.808 | 21919.76 | 0.702829 | 14855.95 | 1.583014 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 29.182 | 0.007 | 20.868 | 12 | 7719.345 | 22790.5 | 0.724841 | 15071.15 | 1.605945 |
| 1000 | 29.182 | 0.007 | 20.868 | 14 | 8285.801 | 23463.72 | 0.740596 | 15177.92 | 1.617322 |
| 1000 | 29.182 | 0.007 | 20.868 | 16 | 8785.696 | 24003.23 | 0.752185 | 15217.53 | 1.621543 |
| 1000 | 29.182 | 0.007 | 20.868 | 18 | 9233.844 | 24448.16 | 0.760897 | 15214.32 | 1.621201 |
| 1000 | 29.182 | 0.007 | 20.868 | 20 | 9640.53 | 24822.91 | 0.767516 | 15182.38 | 1.617797 |
| 1000 | 29.182 | 0.007 | 20.868 | 22 | 10013.2 | 25143.99 | 0.772568 | 15130.78 | 1.612299 |
| 1000 | 29.182 | 0.007 | 20.868 | 24 | 10357.44 | 25423 | 0.77642 | 15065.56 | 1.605349 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.008 | 20.868 | 2 | 1905.101 | 9385.889 | 0.307454 | 7480.788 | 0.789562 |
| 1000 | 29.182 | 0.008 | 20.868 | 4 | 3989.07 | 16142.92 | 0.523093 | 12153.85 | 1.282783 |
| 1000 | 29.182 | 0.008 | 20.868 | 6 | 5301.106 | 19144.16 | 0.614045 | 13843.05 | 1.46107 |
| 1000 | 29.182 | 0.008 | 20.868 | 8 | 6273.062 | 20927.44 | 0.665126 | 14654.38 | 1.546702 |
| 1000 | 29.182 | 0.008 | 20.868 | 10 | 7052.129 | 22139.01 | 0.697741 | 15086.88 | 1.59235 |
| 1000 | 29.182 | 0.008 | 20.868 | 12 | 7705.431 | 23029.13 | 0.720146 | 15323.7 | 1.617346 |
| 1000 | 29.182 | 0.008 | 20.868 | 14 | 8269.804 | 23717.91 | 0.73627 | 15448.11 | 1.630476 |
| 1000 | 29.182 | 0.008 | 20.868 | 16 | 8767.744 | 24270.54 | 0.748223 | 15502.8 | 1.636249 |
| 1000 | 29.182 | 0.008 | 20.868 | 18 | 9214.046 | 24726.49 | 0.757273 | 15512.45 | 1.637267 |
| 1000 | 29.182 | 0.008 | 20.868 | 20 | 9618.983 | 25110.71 | 0.764213 | 15491.73 | 1.63508 |
| 1000 | 29.182 | 0.008 | 20.868 | 22 | 9989.992 | 25440.06 | 0.769571 | 15450.07 | 1.630683 |
| 1000 | 29.182 | 0.008 | 20.868 | 24 | 10332.64 | 25726.35 | 0.773714 | 15393.72 | 1.624735 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.004 | 21.868 | 2 | 1905.745 | 9276.64 | 0.318368 | 7370.895 | 0.782922 |
| 1000 | 30.182 | 0.004 | 21.868 | 4 | 3994.36 | 15823.53 | 0.536401 | 11829.17 | 1.256471 |
| 1000 | 30.182 | 0.004 | 21.868 | 6 | 5307.263 | 18699.73 | 0.626933 | 13392.47 | 1.422521 |
| 1000 | 30.182 | 0.004 | 21.868 | 8 | 6282.045 | 20401.44 | 0.677228 | 14119.4 | 1.499734 |
| 1000 | 30.182 | 0.004 | 21.868 | 10 | 7063.832 | 21554.2 | 0.709014 | 14490.37 | 1.539138 |
| 1000 | 30.182 | 0.004 | 21.868 | 12 | 7719.742 | 22400.44 | 0.730669 | 14680.7 | 1.559354 |
| 1000 | 30.182 | 0.004 | 21.868 | 14 | 8286.614 | 23055.21 | 0.746123 | 14768.59 | 1.56869 |
| 1000 | 30.182 | 0.004 | 21.868 | 16 | 8786.955 | 23579.54 | 0.757412 | 14792.59 | 1.571239 |
| 1000 | 30.182 | 0.004 | 21.868 | 18 | 9235.568 | 24012.47 | 0.765868 | 14776.9 | 1.569573 |
| 1000 | 30.182 | 0.004 | 21.868 | 20 | 9642.735 | 24377.3 | 0.772251 | 14734.57 | 1.565076 |
| 1000 | 30.182 | 0.004 | 21.868 | 22 | 10015.9 | 24690.09 | 0.777085 | 14674.19 | 1.558663 |
| 1000 | 30.182 | 0.004 | 21.868 | 24 | 10360.63 | 24962.08 | 0.780734 | 14601.45 | 1.550937 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.005 | 21.868 | 2 | 1904.89 | 9315.911 | 0.313607 | 7411.021 | 0.77973 |
| 1000 | 30.182 | 0.005 | 21.868 | 4 | 3988.38 | 15941.43 | 0.530422 | 11953.05 | 1.257606 |
| 1000 | 30.182 | 0.005 | 21.868 | 6 | 5300.619 | 18866.72 | 0.621036 | 13566.1 | 1.427319 |
| 1000 | 30.182 | 0.005 | 21.868 | 8 | 6272.757 | 20602.18 | 0.671713 | 14329.42 | 1.50763 |
| 1000 | 30.182 | 0.005 | 21.868 | 10 | 7052.11 | 21779.28 | 0.703893 | 14727.17 | 1.549479 |
| 1000 | 30.182 | 0.005 | 21.868 | 12 | 7705.764 | 22644.57 | 0.725945 | 14938.81 | 1.571745 |
| 1000 | 30.182 | 0.005 | 21.868 | 14 | 8270.53 | 23314.42 | 0.741766 | 15043.89 | 1.582801 |
| 1000 | 30.182 | 0.005 | 21.868 | 16 | 8768.891 | 23851.73 | 0.75343 | 15082.84 | 1.586899 |
| 1000 | 30.182 | 0.005 | 21.868 | 18 | 9215.634 | 24295.38 | 0.762228 | 15079.74 | 1.586573 |
| 1000 | 30.182 | 0.005 | 21.868 | 20 | 9621.025 | 24669.42 | 0.768936 | 15048.39 | 1.583275 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 30.182 | 0.005 | 21.868 | 22 | 9992.497 | 24990.22 | 0.77408 | 14997.72 | 1.577943 |
| 1000 | 30.182 | 0.005 | 21.868 | 24 | 10335.61 | 25269.24 | 0.778024 | 14933.63 | 1.5712 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.006 | 21.868 | 2 | 1904.052 | 9353.552 | 0.308968 | 7449.5 | 0.776426 |
| 1000 | 30.182 | 0.006 | 21.868 | 4 | 3984.816 | 16055.74 | 0.524463 | 12070.92 | 1.258095 |
| 1000 | 30.182 | 0.006 | 21.868 | 6 | 5294.129 | 19029.5 | 0.6152 | 13735.37 | 1.431573 |
| 1000 | 30.182 | 0.006 | 21.868 | 8 | 6263.694 | 20797.55 | 0.66619 | 14533.86 | 1.514795 |
| 1000 | 30.182 | 0.006 | 21.868 | 10 | 7040.679 | 21999.96 | 0.698789 | 14959.28 | 1.559135 |
| 1000 | 30.182 | 0.006 | 21.868 | 12 | 7692.14 | 22884.34 | 0.721221 | 15192.2 | 1.583412 |
| 1000 | 30.182 | 0.006 | 21.868 | 14 | 8254.861 | 23569.45 | 0.737399 | 15314.59 | 1.596168 |
| 1000 | 30.182 | 0.006 | 21.868 | 16 | 8751.301 | 24119.69 | 0.749418 | 15368.38 | 1.601774 |
| 1000 | 30.182 | 0.006 | 21.868 | 18 | 9196.23 | 24574.14 | 0.758544 | 15377.91 | 1.602767 |
| 1000 | 30.182 | 0.006 | 21.868 | 20 | 9599.901 | 24957.49 | 0.765564 | 15357.58 | 1.600649 |
| 1000 | 30.182 | 0.006 | 21.868 | 22 | 9969.733 | 25286.39 | 0.771005 | 15316.66 | 1.596383 |
| 1000 | 30.182 | 0.006 | 21.868 | 24 | 10311.28 | 25572.55 | 0.775232 | 15261.27 | 1.590611 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.007 | 21.868 | 2 | 1903.23 | 9389.652 | 0.304446 | 7486.422 | 0.773023 |
| 1000 | 30.182 | 0.007 | 21.868 | 4 | 3981.323 | 16166.58 | 0.518597 | 12185.25 | 1.258209 |
| 1000 | 30.182 | 0.007 | 21.868 | 6 | 5287.79 | 19188.17 | 0.609427 | 13900.39 | 1.435308 |
| 1000 | 30.182 | 0.007 | 21.868 | 8 | 6254.846 | 20989.29 | 0.660738 | 14734.44 | 1.52143 |
| 1000 | 30.182 | 0.007 | 21.868 | 10 | 7029.528 | 22216.28 | 0.693704 | 15186.75 | 1.568134 |
| 1000 | 30.182 | 0.007 | 21.868 | 12 | 7678.857 | 23119.78 | 0.7165 | 15440.93 | 1.594379 |
| 1000 | 30.182 | 0.007 | 21.868 | 14 | 8239.59 | 23820.26 | 0.733023 | 15580.67 | 1.608809 |
| 1000 | 30.182 | 0.007 | 21.868 | 16 | 8734.165 | 24383.94 | 0.745402 | 15649.77 | 1.615944 |
| 1000 | 30.182 | 0.007 | 21.868 | 18 | 9177.334 | 24848.76 | 0.75482 | 15671.43 | 1.61818 |
| 1000 | 30.182 | 0.007 | 21.868 | 20 | 9579.335 | 25241.49 | 0.76214 | 15662.16 | 1.617223 |
| 1000 | 30.182 | 0.007 | 21.868 | 22 | 9947.578 | 25578.59 | 0.767866 | 15631.01 | 1.614007 |
| 1000 | 30.182 | 0.007 | 21.868 | 24 | 10287.61 | 25871.98 | 0.772365 | 15584.38 | 1.609192 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.008 | 21.868 | 2 | 1902.425 | 9424.293 | 0.300039 | 7521.869 | 0.769532 |
| 1000 | 30.182 | 0.008 | 21.868 | 4 | 3977.902 | 16274.05 | 0.512824 | 12296.15 | 1.25797 |
| 1000 | 30.182 | 0.008 | 21.868 | 6 | 5281.594 | 19342.83 | 0.603715 | 14061.23 | 1.438548 |
| 1000 | 30.182 | 0.008 | 21.868 | 8 | 6246.206 | 21176.77 | 0.655324 | 14930.56 | 1.527486 |
| 1000 | 30.182 | 0.008 | 21.868 | 10 | 7018.645 | 22428.3 | 0.68864 | 15409.65 | 1.5765 |
| 1000 | 30.182 | 0.008 | 21.868 | 12 | 7665.901 | 23350.85 | 0.711779 | 15684.95 | 1.604664 |
| 1000 | 30.182 | 0.008 | 21.868 | 14 | 8224.701 | 24066.84 | 0.728637 | 15842.14 | 1.620745 |
| 1000 | 30.182 | 0.008 | 21.868 | 16 | 8717.464 | 24643.19 | 0.741324 | 15925.73 | 1.629297 |
| 1000 | 30.182 | 0.008 | 21.868 | 18 | 9158.924 | 25119.24 | 0.751057 | 15960.31 | 1.632836 |
| 1000 | 30.182 | 0.008 | 21.868 | 20 | 9559.305 | 25521.43 | 0.758665 | 15962.12 | 1.63302 |
| 1000 | 30.182 | 0.008 | 21.868 | 22 | 9926.007 | 25866.8 | 0.764666 | 15940.79 | 1.630838 |
| 1000 | 30.182 | 0.008 | 21.868 | 24 | 10264.56 | 26167.5 | 0.769427 | 15902.94 | 1.626966 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.004 | 22.868 | 2 | 1903.027 | 9320.159 | 0.310465 | 7417.132 | 0.763504 |
| 1000 | 31.182 | 0.004 | 22.868 | 4 | 3980.653 | 15967.17 | 0.525796 | 11986.52 | 1.233867 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 31.182 | 0.004 | 22.868 | 6 | 5287.292 | 18913.81 | 0.616328 | 13626.52 | 1.402685 |
| 1000 | 31.182 | 0.004 | 22.868 | 8 | 6254.503 | 20667.91 | 0.667283 | 14413.41 | 1.483685 |
| 1000 | 31.182 | 0.004 | 22.868 | 10 | 7029.439 | 21860.44 | 0.69983 | 14831 | 1.526671 |
| 1000 | 31.182 | 0.004 | 22.868 | 12 | 7679.083 | 22739.25 | 0.722297 | 15060.16 | 1.550261 |
| 1000 | 31.182 | 0.004 | 22.868 | 14 | 8240.172 | 23420.82 | 0.738535 | 15180.65 | 1.562663 |
| 1000 | 31.182 | 0.004 | 22.868 | 16 | 8735.131 | 23968.72 | 0.750624 | 15233.59 | 1.568113 |
| 1000 | 31.182 | 0.004 | 22.868 | 18 | 9178.703 | 24421.74 | 0.759831 | 15243.04 | 1.569086 |
| 1000 | 31.182 | 0.004 | 22.868 | 20 | 9581.119 | 24804.24 | 0.766934 | 15223.12 | 1.567035 |
| 1000 | 31.182 | 0.004 | 22.868 | 22 | 9949.786 | 25132.71 | 0.772461 | 15182.93 | 1.562898 |
| 1000 | 31.182 | 0.004 | 22.868 | 24 | 10290.24 | 25418.75 | 0.776774 | 15128.51 | 1.557296 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.005 | 22.868 | 2 | 1902.225 | 9357.526 | 0.305924 | 7455.302 | 0.760388 |
| 1000 | 31.182 | 0.005 | 22.868 | 4 | 3977.245 | 16080.18 | 0.519938 | 12102.94 | 1.234414 |
| 1000 | 31.182 | 0.005 | 22.868 | 6 | 5281.091 | 19074.54 | 0.610561 | 13793.44 | 1.406834 |
| 1000 | 31.182 | 0.005 | 22.868 | 8 | 6245.846 | 20860.44 | 0.661783 | 14614.59 | 1.490585 |
| 1000 | 31.182 | 0.005 | 22.868 | 10 | 7018.522 | 22078.19 | 0.694731 | 15059.67 | 1.53598 |
| 1000 | 31.182 | 0.005 | 22.868 | 12 | 7666.074 | 22976.14 | 0.717564 | 15310.06 | 1.561518 |
| 1000 | 31.182 | 0.005 | 22.868 | 14 | 8225.211 | 23672.52 | 0.734122 | 15447.31 | 1.575516 |
| 1000 | 31.182 | 0.005 | 22.868 | 16 | 8718.337 | 24233.76 | 0.746568 | 15515.43 | 1.582464 |
| 1000 | 31.182 | 0.005 | 22.868 | 18 | 9160.178 | 24696.86 | 0.75605 | 15536.68 | 1.584631 |
| 1000 | 31.182 | 0.005 | 22.868 | 20 | 9560.953 | 25088.56 | 0.763445 | 15527.61 | 1.583707 |
| 1000 | 31.182 | 0.005 | 22.868 | 22 | 9928.057 | 25425.08 | 0.769249 | 15497.03 | 1.580587 |
| 1000 | 31.182 | 0.005 | 22.868 | 24 | 10267.02 | 25718.22 | 0.773827 | 15451.2 | 1.575913 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.006 | 22.868 | 2 | 1901.439 | 9393.374 | 0.301497 | 7491.935 | 0.757174 |
| 1000 | 31.182 | 0.006 | 22.868 | 4 | 3973.905 | 16189.79 | 0.514172 | 12215.89 | 1.234602 |
| 1000 | 31.182 | 0.006 | 22.868 | 6 | 5275.031 | 19231.24 | 0.604857 | 13956.21 | 1.410487 |
| 1000 | 31.182 | 0.006 | 22.868 | 8 | 6237.39 | 21049.69 | 0.656368 | 14812.3 | 1.497009 |
| 1000 | 31.182 | 0.006 | 22.868 | 10 | 7007.865 | 22291.69 | 0.689655 | 15283.82 | 1.544663 |
| 1000 | 31.182 | 0.006 | 22.868 | 12 | 7653.382 | 23208.86 | 0.712841 | 15555.48 | 1.572118 |
| 1000 | 31.182 | 0.006 | 22.868 | 14 | 8210.621 | 23920.05 | 0.729703 | 15709.43 | 1.587677 |
| 1000 | 31.182 | 0.006 | 22.868 | 16 | 8701.967 | 24493.73 | 0.742446 | 15791.76 | 1.595998 |
| 1000 | 31.182 | 0.006 | 22.868 | 18 | 9142.127 | 24967.89 | 0.752238 | 15825.77 | 1.599435 |
| 1000 | 31.182 | 0.006 | 22.868 | 20 | 9541.309 | 25368.89 | 0.759913 | 15827.58 | 1.599618 |
| 1000 | 31.182 | 0.006 | 22.868 | 22 | 9906.896 | 25713.54 | 0.765984 | 15806.64 | 1.597502 |
| 1000 | 31.182 | 0.006 | 22.868 | 24 | 10244.41 | 26013.85 | 0.770816 | 15769.44 | 1.593742 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.007 | 22.868 | 2 | 1900.667 | 9427.782 | 0.29718 | 7527.115 | 0.753872 |
| 1000 | 31.182 | 0.007 | 22.868 | 4 | 3970.631 | 16296.11 | 0.508497 | 12325.48 | 1.234449 |
| 1000 | 31.182 | 0.007 | 22.868 | 6 | 5269.105 | 19384.01 | 0.599216 | 14114.9 | 1.413667 |
| 1000 | 31.182 | 0.007 | 22.868 | 8 | 6229.128 | 21234.78 | 0.650994 | 15005.65 | 1.50288 |
| 1000 | 31.182 | 0.007 | 22.868 | 10 | 6997.46 | 22500.99 | 0.684604 | 15503.53 | 1.552744 |
| 1000 | 31.182 | 0.007 | 22.868 | 12 | 7640.995 | 23436.19 | 0.708074 | 15795.2 | 1.581956 |
| 1000 | 31.182 | 0.007 | 22.868 | 14 | 8196.388 | 24163.41 | 0.725281 | 15967.03 | 1.599165 |
| 1000 | 31.182 | 0.007 | 22.868 | 16 | 8686.003 | 24749.69 | 0.738314 | 16063.68 | 1.608846 |
| 1000 | 31.182 | 0.007 | 22.868 | 18 | 9124.53 | 25234.86 | 0.748397 | 16110.33 | 1.613517 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 31.182 | 0.007 | 22.868 | 20 | 9522.165 | 25645.22 | 0.756341 | 16123.05 | 1.614792 |
| 1000 | 31.182 | 0.007 | 22.868 | 22 | 9886.278 | 25998.06 | 0.762668 | 16111.78 | 1.613663 |
| 1000 | 31.182 | 0.007 | 22.868 | 24 | 10222.38 | 26305.62 | 0.767746 | 16083.23 | 1.610804 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.008 | 22.868 | 2 | 1899.911 | 9460.828 | 0.29297 | 7560.918 | 0.750493 |
| 1000 | 31.182 | 0.008 | 22.868 | 4 | 3967.421 | 16399.25 | 0.502912 | 12431.83 | 1.233977 |
| 1000 | 31.182 | 0.008 | 22.868 | 6 | 5263.308 | 19532.93 | 0.593637 | 14269.62 | 1.416396 |
| 1000 | 31.182 | 0.008 | 22.868 | 8 | 6221.053 | 21415.77 | 0.645662 | 15194.71 | 1.50822 |
| 1000 | 31.182 | 0.008 | 22.868 | 10 | 6987.296 | 22706.16 | 0.67958 | 15718.86 | 1.560247 |
| 1000 | 31.182 | 0.008 | 22.868 | 12 | 7628.901 | 23660.07 | 0.70335 | 16031.16 | 1.591246 |
| 1000 | 31.182 | 0.008 | 22.868 | 14 | 8182.498 | 24402.61 | 0.720855 | 16220.11 | 1.610001 |
| 1000 | 31.182 | 0.008 | 22.868 | 16 | 8670.429 | 25001.59 | 0.73417 | 16331.16 | 1.621024 |
| 1000 | 31.182 | 0.008 | 22.868 | 18 | 9107.369 | 25498.22 | 0.74455 | 16390.86 | 1.626949 |
| 1000 | 31.182 | 0.008 | 22.868 | 20 | 9503.499 | 25917.54 | 0.752732 | 16414.04 | 1.629249 |
| 1000 | 31.182 | 0.008 | 22.868 | 22 | 9866.182 | 26278.63 | 0.759306 | 16412.45 | 1.629092 |
| 1000 | 31.182 | 0.008 | 22.868 | 24 | 10200.92 | 26593.51 | 0.76462 | 16392.59 | 1.627121 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.004 | 23.868 | 2 | 1900.475 | 9361.456 | 0.30294 | 7460.981 | 0.74501 |
| 1000 | 32.182 | 0.004 | 23.868 | 4 | 3969.993 | 16104.18 | 0.515485 | 12134.19 | 1.21165 |
| 1000 | 32.182 | 0.004 | 23.868 | 6 | 5268.595 | 19118.59 | 0.60597 | 13850 | 1.382981 |
| 1000 | 32.182 | 0.004 | 23.868 | 8 | 6228.736 | 20921.86 | 0.657394 | 14693.13 | 1.467171 |
| 1000 | 32.182 | 0.004 | 23.868 | 10 | 6997.278 | 22154.56 | 0.69066 | 15157.28 | 1.513518 |
| 1000 | 32.182 | 0.004 | 23.868 | 12 | 7641.08 | 23065.26 | 0.713844 | 15424.18 | 1.54017 |
| 1000 | 32.182 | 0.004 | 23.868 | 14 | 8196.778 | 23773.04 | 0.730774 | 15576.26 | 1.555355 |
| 1000 | 32.182 | 0.004 | 23.868 | 16 | 8686.723 | 24344.13 | 0.743577 | 15657.41 | 1.563458 |
| 1000 | 32.182 | 0.004 | 23.868 | 18 | 9125.599 | 24816.46 | 0.753431 | 15690.86 | 1.566799 |
| 1000 | 32.182 | 0.004 | 23.868 | 20 | 9523.594 | 25216.32 | 0.761176 | 15692.72 | 1.566985 |
| 1000 | 32.182 | 0.004 | 23.868 | 22 | 9888.077 | 25560.26 | 0.767319 | 15672.18 | 1.564933 |
| 1000 | 32.182 | 0.004 | 23.868 | 24 | 10224.56 | 25860.19 | 0.772225 | 15635.63 | 1.561283 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.005 | 23.868 | 2 | 1899.722 | 9397.056 | 0.298604 | 7497.334 | 0.741972 |
| 1000 | 32.182 | 0.005 | 23.868 | 4 | 3966.795 | 16212.59 | 0.509817 | 12245.8 | 1.211903 |
| 1000 | 32.182 | 0.005 | 23.868 | 6 | 5262.796 | 19273.39 | 0.600337 | 14010.59 | 1.386556 |
| 1000 | 32.182 | 0.005 | 23.868 | 8 | 6220.648 | 21108.72 | 0.65202 | 14888.07 | 1.473396 |
| 1000 | 32.182 | 0.005 | 23.868 | 10 | 6987.086 | 22365.34 | 0.685599 | 15378.25 | 1.521906 |
| 1000 | 32.182 | 0.005 | 23.868 | 12 | 7628.943 | 23294.35 | 0.709081 | 15665.41 | 1.550324 |
| 1000 | 32.182 | 0.005 | 23.868 | 14 | 8182.828 | 24017.39 | 0.726322 | 15834.57 | 1.567065 |
| 1000 | 32.182 | 0.005 | 23.868 | 16 | 8671.072 | 24600.85 | 0.739404 | 15929.78 | 1.576488 |
| 1000 | 32.182 | 0.005 | 23.868 | 18 | 9108.342 | 25084.04 | 0.749543 | 15975.7 | 1.581032 |
| 1000 | 32.182 | 0.005 | 23.868 | 20 | 9504.815 | 25493.09 | 0.75755 | 15988.28 | 1.582277 |
| 1000 | 32.182 | 0.005 | 23.868 | 22 | 9867.848 | 25845.08 | 0.763942 | 15977.23 | 1.581184 |
| 1000 | 32.182 | 0.005 | 23.868 | 24 | 10202.95 | 26152.13 | 0.769087 | 15949.19 | 1.578409 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.006 | 23.868 | 2 | 1898.983 | 9431.235 | 0.294375 | 7532.253 | 0.738847 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 32.182 | 0.006 | 23.868 | 4 | 3963.66 | 16317.78 | 0.504238 | 12354.13 | 1.21183 |
| 1000 | 32.182 | 0.006 | 23.868 | 6 | 5257.123 | 19424.33 | 0.594765 | 14167.21 | 1.389678 |
| 1000 | 32.182 | 0.006 | 23.868 | 8 | 6212.74 | 21291.5 | 0.646689 | 15078.76 | 1.479093 |
| 1000 | 32.182 | 0.006 | 23.868 | 10 | 6977.129 | 22572.02 | 0.680567 | 15594.89 | 1.529721 |
| 1000 | 32.182 | 0.006 | 23.868 | 12 | 7617.091 | 23519.5 | 0.70434 | 15902.41 | 1.559886 |
| 1000 | 32.182 | 0.006 | 23.868 | 14 | 8169.211 | 24257.65 | 0.72187 | 16088.44 | 1.578133 |
| 1000 | 32.182 | 0.006 | 23.868 | 16 | 8655.8 | 24853.59 | 0.735226 | 16197.8 | 1.58886 |
| 1000 | 32.182 | 0.006 | 23.868 | 18 | 9091.509 | 25348.17 | 0.745659 | 16256.66 | 1.594635 |
| 1000 | 32.182 | 0.006 | 23.868 | 20 | 9486.502 | 25765.92 | 0.753892 | 16279.42 | 1.596867 |
| 1000 | 32.182 | 0.006 | 23.868 | 22 | 9848.128 | 26126.03 | 0.760525 | 16277.9 | 1.596718 |
| 1000 | 32.182 | 0.006 | 23.868 | 24 | 10181.88 | 26440.27 | 0.765899 | 16258.39 | 1.594804 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.007 | 23.868 | 2 | 1898.257 | 9464.07 | 0.290249 | 7565.812 | 0.735645 |
| 1000 | 32.182 | 0.007 | 23.868 | 4 | 3960.584 | 16419.85 | 0.498747 | 12459.27 | 1.211449 |
| 1000 | 32.182 | 0.007 | 23.868 | 6 | 5251.572 | 19571.51 | 0.589257 | 14319.94 | 1.392367 |
| 1000 | 32.182 | 0.007 | 23.868 | 8 | 6205.008 | 21470.26 | 0.6414 | 15265.25 | 1.484282 |
| 1000 | 32.182 | 0.007 | 23.868 | 10 | 6967.398 | 22774.67 | 0.675564 | 15807.27 | 1.536985 |
| 1000 | 32.182 | 0.007 | 23.868 | 12 | 7605.514 | 23740.54 | 0.699613 | 16135.03 | 1.568853 |
| 1000 | 32.182 | 0.007 | 23.868 | 14 | 8155.915 | 24494.02 | 0.71743 | 16338.11 | 1.588599 |
| 1000 | 32.182 | 0.007 | 23.868 | 16 | 8640.892 | 25102.34 | 0.73104 | 16461.45 | 1.600592 |
| 1000 | 32.182 | 0.007 | 23.868 | 18 | 9075.084 | 25607.47 | 0.741718 | 16532.39 | 1.60749 |
| 1000 | 32.182 | 0.007 | 23.868 | 20 | 9468.638 | 26034.81 | 0.750205 | 16566.18 | 1.610775 |
| 1000 | 32.182 | 0.007 | 23.868 | 22 | 9828.895 | 26403.1 | 0.757069 | 16574.2 | 1.611555 |
| 1000 | 32.182 | 0.007 | 23.868 | 24 | 10161.34 | 26724.59 | 0.762664 | 16563.25 | 1.61049 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.008 | 23.868 | 2 | 1897.545 | 9495.629 | 0.286224 | 7598.084 | 0.732374 |
| 1000 | 32.182 | 0.008 | 23.868 | 4 | 3957.566 | 16518.91 | 0.493342 | 12561.34 | 1.210778 |
| 1000 | 32.182 | 0.008 | 23.868 | 6 | 5246.138 | 19715.02 | 0.583811 | 14468.88 | 1.394644 |
| 1000 | 32.182 | 0.008 | 23.868 | 8 | 6197.445 | 21645.07 | 0.636155 | 15447.63 | 1.488985 |
| 1000 | 32.182 | 0.008 | 23.868 | 10 | 6957.885 | 22973.34 | 0.670591 | 16015.46 | 1.543718 |
| 1000 | 32.182 | 0.008 | 23.868 | 12 | 7594.2 | 23957.52 | 0.694902 | 16363.32 | 1.577248 |
| 1000 | 32.182 | 0.008 | 23.868 | 14 | 8142.927 | 24726.73 | 0.713009 | 16583.8 | 1.5985 |
| 1000 | 32.182 | 0.008 | 23.868 | 16 | 8626.336 | 25347.08 | 0.726848 | 16720.75 | 1.6117 |
| 1000 | 32.182 | 0.008 | 23.868 | 18 | 9059.049 | 25862.89 | 0.737764 | 16803.84 | 1.61971 |
| 1000 | 32.182 | 0.008 | 23.868 | 20 | 9451.205 | 26300.44 | 0.746522 | 16849.24 | 1.624085 |
| 1000 | 32.182 | 0.008 | 23.868 | 22 | 9810.131 | 26676.29 | 0.753579 | 16866.15 | 1.625716 |
| 1000 | 32.182 | 0.008 | 23.868 | 24 | 10141.31 | 27005.09 | 0.759387 | 16863.78 | 1.625487 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 11060.6 | 0.320622 | 9148.846 | 1.03792 |
| 1200 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 18741.57 | 0.536793 | 14721.58 | 1.670136 |
| 1200 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 22063.11 | 0.625332 | 16711.52 | 1.895891 |
| 1200 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 24007.25 | 0.67414 | 17664.01 | 2.00395 |
| 1200 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 25314.73 | 0.704905 | 18174.42 | 2.061854 |
| 1200 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 26267.04 | 0.725784 | 18456.83 | 2.093893 |
| 1200 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 26999.47 | 0.740673 | 18609.45 | 2.111208 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 27584.39 | 0.751628 | 18682 | 2.119438 |
| 1200 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 28064.41 | 0.759837 | 18702.12 | 2.12172 |
| 1200 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 28467.49 | 0.766083 | 18687.39 | 2.12005 |
| 1200 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 28811.81 | 0.770862 | 18648.48 | 2.115636 |
| 1200 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 29110.19 | 0.774521 | 18592.56 | 2.109291 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 11120.86 | 0.314921 | 9210.085 | 1.034306 |
| 1200 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 18921.73 | 0.529752 | 14906.1 | 1.673977 |
| 1200 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 22317.25 | 0.618589 | 16973.35 | 1.906132 |
| 1200 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 24311.42 | 0.667903 | 17978.95 | 2.019064 |
| 1200 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 25655.84 | 0.699201 | 18529.15 | 2.080852 |
| 1200 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 26635.89 | 0.720553 | 18841.94 | 2.115979 |
| 1200 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 27391.24 | 0.735912 | 19019.97 | 2.135971 |
| 1200 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 27994.11 | 0.747265 | 19112.79 | 2.146395 |
| 1200 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 28490.35 | 0.755891 | 19151.33 | 2.150723 |
| 1200 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 28906.26 | 0.762484 | 19151.53 | 2.150746 |
| 1200 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 29262.17 | 0.767607 | 19126.21 | 2.147902 |
| 1200 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 29570.72 | 0.771591 | 19082.37 | 2.142978 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 11178.04 | 0.309387 | 9268.23 | 1.030422 |
| 1200 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 19095.19 | 0.522824 | 15083.81 | 1.676985 |
| 1200 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 22563.62 | 0.611908 | 17227.21 | 1.915284 |
| 1200 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 24607.54 | 0.661692 | 18285.56 | 2.032949 |
| 1200 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 25987.65 | 0.693447 | 18874.21 | 2.098394 |
| 1200 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 26996.87 | 0.715298 | 19218.74 | 2.136698 |
| 1200 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 27774.37 | 0.731071 | 19421.31 | 2.159219 |
| 1200 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 28396.35 | 0.742843 | 19535.5 | 2.171914 |
| 1200 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 28908.09 | 0.751834 | 19591.67 | 2.178159 |
| 1200 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 29337.84 | 0.75879 | 19607.74 | 2.179946 |
| 1200 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 29705.52 | 0.764244 | 19596.11 | 2.178653 |
| 1200 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 30024.42 | 0.76854 | 19564.47 | 2.175135 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 11232.36 | 0.304016 | 9323.486 | 1.026296 |
| 1200 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 19262.22 | 0.51601 | 15254.98 | 1.679213 |
| 1200 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 22802.42 | 0.605291 | 17473.33 | 1.923401 |
| 1200 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 24895.74 | 0.655509 | 18583.98 | 2.045658 |
| 1200 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 26312.34 | 0.687725 | 19211.81 | 2.114766 |
| 1200 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 27350.05 | 0.710026 | 19587.32 | 2.156101 |
| 1200 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 28150.21 | 0.726208 | 19814.87 | 2.181149 |
| 1200 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 28791.05 | 0.738365 | 19950.09 | 2.196034 |
| 1200 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 29318.6 | 0.747711 | 20024.15 | 2.204186 |
| 1200 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 29762.63 | 0.755026 | 20056.45 | 2.207741 |
| 1200 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 30141.8 | 0.760781 | 20058.18 | 2.207932 |
| 1200 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 30471.22 | 0.765376 | 20038.84 | 2.205803 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 11284 | 0.298802 | 9376.043 | 1.021957 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 19423.06 | 0.50931 | 15419.87 | 1.680713 |
| 1200 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 23033.86 | 0.598741 | 17711.89 | 1.930535 |
| 1200 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 25176.16 | 0.649358 | 18874.37 | 2.057241 |
| 1200 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 26629.16 | 0.682008 | 19541.19 | 2.129923 |
| 1200 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 27695.54 | 0.70474 | 19947.78 | 2.17424 |
| 1200 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 28518.36 | 0.721309 | 20200.25 | 2.201758 |
| 1200 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 29178.31 | 0.733839 | 20356.7 | 2.21881 |
| 1200 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 29721.79 | 0.743525 | 20448.68 | 2.228836 |
| 1200 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 30179.45 | 0.751155 | 20496.51 | 2.234049 |
| 1200 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 30570.99 | 0.757224 | 20512.41 | 2.235782 |
| 1200 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 30911.07 | 0.762106 | 20505.46 | 2.235025 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 12951.32 | 0.310428 | 11039.57 | 1.252419 |
| 1400 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 22005.38 | 0.522029 | 17985.39 | 2.040409 |
| 1400 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 25939.27 | 0.609969 | 20587.68 | 2.335634 |
| 1400 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 28246.12 | 0.659128 | 21902.88 | 2.484841 |
| 1400 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 29799.39 | 0.690603 | 22659.08 | 2.57063 |
| 1400 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 30932.77 | 0.712384 | 23122.56 | 2.623211 |
| 1400 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 31805.03 | 0.728241 | 23415.02 | 2.65639 |
| 1400 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 32501.34 | 0.74017 | 23598.94 | 2.677256 |
| 1400 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 33073.94 | 0.749394 | 23711.65 | 2.690042 |
| 1400 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 33554.28 | 0.756629 | 23774.19 | 2.697138 |
| 1400 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 33965.17 | 0.762403 | 23801.85 | 2.700275 |
| 1400 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 34320.95 | 0.767031 | 23803.31 | 2.700442 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 13030.18 | 0.304248 | 11119.41 | 1.248727 |
| 1400 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 22243.6 | 0.514343 | 18227.97 | 2.047028 |
| 1400 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 26277.31 | 0.602569 | 20933.41 | 2.350854 |
| 1400 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 28651.91 | 0.652235 | 22319.45 | 2.506508 |
| 1400 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 30254.9 | 0.684227 | 23128.21 | 2.597333 |
| 1400 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 31426.69 | 0.706493 | 23632.75 | 2.653993 |
| 1400 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 32330.17 | 0.72281 | 23958.9 | 2.690621 |
| 1400 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 33051.52 | 0.735138 | 24170.2 | 2.71435 |
| 1400 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 33645.19 | 0.74473 | 24306.17 | 2.72962 |
| 1400 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 34144.15 | 0.752324 | 24389.42 | 2.738969 |
| 1400 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 34570.84 | 0.75842 | 24434.88 | 2.744074 |
| 1400 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 34941.12 | 0.76337 | 24452.77 | 2.746082 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 13104.43 | 0.29827 | 11194.62 | 1.244594 |
| 1400 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 22471.54 | 0.506788 | 18460.15 | 2.05236 |
| 1400 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 26603.28 | 0.595237 | 21266.88 | 2.364405 |
| 1400 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 29045.1 | 0.645366 | 22723.13 | 2.526308 |
| 1400 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 30697.74 | 0.677844 | 23584.31 | 2.622052 |
| 1400 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 31908.09 | 0.700571 | 24129.96 | 2.682717 |
| 1400 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 32841.91 | 0.717292 | 24488.85 | 2.722617 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 33589.8 | 0.730039 | 24728.95 | 2.749311 |
| 1400 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 34204.99 | 0.73999 | 24888.57 | 2.767057 |
| 1400 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 34722.74 | 0.747926 | 24992.64 | 2.778627 |
| 1400 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 35165.44 | 0.754329 | 25056.04 | 2.785675 |
| 1400 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 35549.83 | 0.759567 | 25089.88 | 2.789438 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 13174.43 | 0.292486 | 11265.55 | 1.240072 |
| 1400 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 22689.65 | 0.499367 | 18682.42 | 2.056493 |
| 1400 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 26917.56 | 0.587978 | 21588.46 | 2.37638 |
| 1400 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 29425.95 | 0.638526 | 23114.19 | 2.544327 |
| 1400 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 31128.09 | 0.671458 | 24027.56 | 2.644867 |
| 1400 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 32377.07 | 0.694621 | 24614.33 | 2.709457 |
| 1400 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 33342.1 | 0.711749 | 25006.76 | 2.752653 |
| 1400 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 34116.24 | 0.724882 | 25275.29 | 2.782213 |
| 1400 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 34753.06 | 0.735172 | 25458.61 | 2.802392 |
| 1400 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 35289.45 | 0.743424 | 25583.26 | 2.816113 |
| 1400 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 35749.15 | 0.750145 | 25665.52 | 2.825168 |
| 1400 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 36147.66 | 0.755653 | 25715.27 | 2.830645 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 13240.49 | 0.28689 | 11332.53 | 1.235207 |
| 1400 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 22898.41 | 0.492082 | 18895.23 | 2.059515 |
| 1400 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 27220.51 | 0.580795 | 21898.54 | 2.386866 |
| 1400 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 29794.73 | 0.631722 | 23492.93 | 2.560649 |
| 1400 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 31546.14 | 0.665077 | 24458.18 | 2.665857 |
| 1400 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 32833.75 | 0.688651 | 25085.99 | 2.734287 |
| 1400 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 33830.11 | 0.706165 | 25512 | 2.780721 |
| 1400 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 34629.72 | 0.71964 | 25808.11 | 2.812996 |
| 1400 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 35289.47 | 0.730286 | 26016.36 | 2.835694 |
| 1400 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 35844.79 | 0.738843 | 26161.85 | 2.851552 |
| 1400 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 36320.8 | 0.745843 | 26262.22 | 2.862493 |
| 1400 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 36734.42 | 0.751632 | 26328.8 | 2.869749 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 14853.74 | 0.302675 | 12941.99 | 1.468244 |
| 1600 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 25306.05 | 0.511082 | 21286.07 | 2.414865 |
| 1600 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 29868.54 | 0.598731 | 24516.96 | 2.781403 |
| 1600 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 32548.33 | 0.648219 | 26205.09 | 2.972919 |
| 1600 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 34355.75 | 0.680271 | 27215.45 | 3.087542 |
| 1600 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 35676.06 | 0.702721 | 27865.85 | 3.161329 |
| 1600 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 36692.69 | 0.719272 | 28302.67 | 3.210886 |
| 1600 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 37505.32 | 0.731919 | 28602.93 | 3.244949 |
| 1600 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 38173.75 | 0.74185 | 28811.46 | 3.268607 |
| 1600 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 38734.61 | 0.749779 | 28954.52 | 3.284836 |
| 1600 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 39214.31 | 0.756226 | 29050.98 | 3.29578 |
| 1600 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 39630.28 | 0.761528 | 29112.65 | 3.302776 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 14952.81 | 0.296012 | 13042.04 | 1.464641 |
| 1600 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 25608.5 | 0.502728 | 21592.87 | 2.424911 |
| 1600 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 30298.11 | 0.590601 | 24954.21 | 2.802396 |
| 1600 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 33067.81 | 0.640644 | 26735.35 | 3.00242 |
| 1600 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 34940.08 | 0.67322 | 27813.39 | 3.123486 |
| 1600 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 36310.67 | 0.696162 | 28516.73 | 3.202471 |
| 1600 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 37367.72 | 0.713163 | 28996.45 | 3.256345 |
| 1600 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 38213.76 | 0.726222 | 29332.44 | 3.294077 |
| 1600 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 38909.98 | 0.73652 | 29570.97 | 3.320864 |
| 1600 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 39495.65 | 0.744812 | 29740.92 | 3.33995 |
| 1600 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 39996.25 | 0.751578 | 29860.28 | 3.353355 |
| 1600 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 40430.75 | 0.757179 | 29942.39 | 3.362575 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 15045.39 | 0.289587 | 13135.57 | 1.460384 |
| 1600 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 25896.09 | 0.49453 | 21884.71 | 2.433094 |
| 1600 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 30711.69 | 0.582587 | 25375.28 | 2.821168 |
| 1600 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 33568.78 | 0.633095 | 27246.8 | 3.02924 |
| 1600 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 35505.69 | 0.666158 | 28392.26 | 3.156589 |
| 1600 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 36926.69 | 0.689563 | 29148.57 | 3.240674 |
| 1600 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 38024.45 | 0.706992 | 29671.4 | 3.298801 |
| 1600 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 38904.25 | 0.720444 | 30043.4 | 3.34016 |
| 1600 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 39629.04 | 0.731104 | 30312.63 | 3.370092 |
| 1600 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 40239.78 | 0.739741 | 30509.68 | 3.391999 |
| 1600 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 40761.48 | 0.746808 | 30652.08 | 3.407831 |
| 1600 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 41214.79 | 0.752695 | 30754.83 | 3.419255 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 15132.02 | 0.283393 | 13223.15 | 1.455557 |
| 1600 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 26169.62 | 0.486489 | 22162.38 | 2.439555 |
| 1600 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 31108.26 | 0.574657 | 25779.16 | 2.837677 |
| 1600 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 34051.68 | 0.625578 | 27739.93 | 3.053511 |
| 1600 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 36052.91 | 0.659091 | 28952.37 | 3.186973 |
| 1600 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 37524.34 | 0.682931 | 29761.6 | 3.276049 |
| 1600 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 38663 | 0.700767 | 30327.65 | 3.338359 |
| 1600 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 39576.83 | 0.714593 | 30735.87 | 3.383294 |
| 1600 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 40330.51 | 0.725599 | 31036.05 | 3.416337 |
| 1600 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 40965.44 | 0.734538 | 31259.26 | 3.440906 |
| 1600 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 41510.04 | 0.74193 | 31426.41 | 3.459306 |
| 1600 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 41982.33 | 0.748088 | 31549.94 | 3.472904 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 15213.23 | 0.277421 | 13305.27 | 1.450229 |
| 1600 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 26429.85 | 0.47861 | 22426.66 | 2.44443 |
| 1600 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 31488.49 | 0.566819 | 26166.52 | 2.852061 |
| 1600 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 34517.02 | 0.618103 | 28215.23 | 3.075363 |
| 1600 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 36582.09 | 0.65203 | 29494.12 | 3.214758 |
| 1600 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 38103.85 | 0.676277 | 30356.09 | 3.30871 |
| 1600 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 39283.51 | 0.694496 | 30965.4 | 3.375123 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 40231.58 | 0.708678 | 31409.97 | 3.423579 |
| 1600 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 41014.41 | 0.720014 | 31741.29 | 3.459692 |
| 1600 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 41674.54 | 0.72926 | 31991.6 | 3.486975 |
| 1600 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 42240.67 | 0.736924 | 32182.09 | 3.507738 |
| 1600 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 42733.38 | 0.743369 | 32327.77 | 3.523616 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 16767.27 | 0.29638 | 14855.52 | 1.685331 |
| 1800 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 28641.59 | 0.502341 | 24621.6 | 2.793275 |
| 1800 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 33845.35 | 0.589776 | 28493.76 | 3.232564 |
| 1800 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 36912.64 | 0.639649 | 30569.4 | 3.468042 |
| 1800 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 38981.84 | 0.672168 | 31841.53 | 3.612363 |
| 1800 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 40495.25 | 0.695148 | 32685.04 | 3.708057 |
| 1800 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 41661.58 | 0.712245 | 33271.57 | 3.774598 |
| 1800 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 42594.52 | 0.725435 | 33692.13 | 3.822309 |
| 1800 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 43361.84 | 0.73589 | 33999.55 | 3.857186 |
| 1800 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 44006.76 | 0.744348 | 34226.67 | 3.882952 |
| 1800 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 44559.06 | 0.751321 | 34395.73 | 3.902131 |
| 1800 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 45036.84 | 0.757102 | 34519.2 | 3.916139 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 16887.93 | 0.289237 | 14977.16 | 1.681958 |
| 1800 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 29013.68 | 0.493312 | 24998.05 | 2.807318 |
| 1800 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 34378.45 | 0.580984 | 29034.55 | 3.260624 |
| 1800 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 37555.36 | 0.631346 | 31222.89 | 3.506378 |
| 1800 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 39708.13 | 0.664433 | 32581.44 | 3.658945 |
| 1800 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 41285.22 | 0.687914 | 33491.27 | 3.76112 |
| 1800 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 42502.9 | 0.70547 | 34131.63 | 3.833034 |
| 1800 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 43478.36 | 0.719079 | 34597.04 | 3.8853 |
| 1800 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 44281.64 | 0.729916 | 34942.63 | 3.92411 |
| 1800 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 44957.48 | 0.738726 | 35202.75 | 3.953322 |
| 1800 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 45535.93 | 0.746006 | 35399.97 | 3.97547 |
| 1800 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 46038.8 | 0.752117 | 35550.44 | 3.992368 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 16999.85 | 0.282373 | 15090.04 | 1.677678 |
| 1800 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 29365.33 | 0.484464 | 25353.95 | 2.818797 |
| 1800 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 34887.01 | 0.57228 | 29550.61 | 3.285372 |
| 1800 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 38173.42 | 0.623098 | 31851.44 | 3.541174 |
| 1800 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 40408.08 | 0.656682 | 33294.64 | 3.701626 |
| 1800 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 42048.92 | 0.680631 | 34270.79 | 3.810152 |
| 1800 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 43318.27 | 0.698621 | 34965.21 | 3.887356 |
| 1800 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 44336.68 | 0.712629 | 35475.83 | 3.944125 |
| 1800 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 45176.4 | 0.723832 | 35859.99 | 3.986835 |
| 1800 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 45883.65 | 0.732979 | 36153.55 | 4.019473 |
| 1800 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 46489.54 | 0.74057 | 36380.14 | 4.044664 |
| 1800 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 47015.89 | 0.746954 | 36555.93 | 4.064209 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1800 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 17103.86 | 0.275779 | 15194.99 | 1.672609 |
| 1800 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 29697.78 | 0.475803 | 25690.54 | 2.827922 |
| 1800 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 35372.06 | 0.563675 | 30042.97 | 3.307021 |
| 1800 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 38766.25 | 0.614888 | 32454.5 | 3.572474 |
| 1800 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 41082.23 | 0.648926 | 33981.7 | 3.740583 |
| 1800 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 42786.73 | 0.673312 | 35023.99 | 3.855315 |
| 1800 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 44107.91 | 0.69171 | 35772.57 | 3.937715 |
| 1800 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 45169.59 | 0.706096 | 36328.63 | 3.998925 |
| 1800 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 46046.13 | 0.717647 | 36751.67 | 4.045492 |
| 1800 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 46785.21 | 0.727116 | 37079.03 | 4.081526 |
| 1800 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 47418.98 | 0.735006 | 37335.36 | 4.109742 |
| 1800 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 47970 | 0.741668 | 37537.62 | 4.132005 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 17200.71 | 0.269443 | 15292.75 | 1.666857 |
| 1800 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 30012.22 | 0.467334 | 26009.03 | 2.834896 |
| 1800 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 35834.65 | 0.55518 | 30512.68 | 3.325778 |
| 1800 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 39334.69 | 0.606728 | 33032.9 | 3.600473 |
| 1800 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 41731.22 | 0.641179 | 34643.25 | 3.775996 |
| 1800 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 43499.11 | 0.665968 | 35751.35 | 3.896774 |
| 1800 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 44872.14 | 0.684749 | 36554.03 | 3.984264 |
| 1800 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 45977.28 | 0.699492 | 37155.67 | 4.049841 |
| 1800 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 46890.92 | 0.711374 | 37617.81 | 4.100213 |
| 1800 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 47662.18 | 0.721151 | 37979.23 | 4.139607 |
| 1800 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 48324.19 | 0.729326 | 38265.61 | 4.170821 |
| 1800 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 48900.27 | 0.736255 | 38494.65 | 4.195785 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 18691.41 | 0.291029 | 16779.66 | 1.903621 |
| 2000 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 32010.65 | 0.495 | 27990.66 | 3.175489 |
| 2000 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 37872.64 | 0.582336 | 32521.06 | 3.689453 |
| 2000 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 41334.23 | 0.632474 | 34990.99 | 3.969663 |
| 2000 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 43676.35 | 0.665447 | 36536.04 | 4.144946 |
| 2000 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 45388.8 | 0.68886 | 37578.59 | 4.263221 |
| 2000 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 46709.82 | 0.706398 | 38319.81 | 4.347311 |
| 2000 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 47767.26 | 0.720026 | 38864.87 | 4.409148 |
| 2000 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 48637.5 | 0.730905 | 39275.21 | 4.455699 |
| 2000 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 49369.26 | 0.739775 | 39589.16 | 4.491317 |
| 2000 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 49995.27 | 0.747128 | 39831.94 | 4.51886 |
| 2000 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 50538.43 | 0.753305 | 40020.8 | 4.540285 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 18834.81 | 0.283415 | 16924.04 | 1.900595 |
| 2000 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 32457.22 | 0.485294 | 28441.59 | 3.194034 |
| 2000 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 38515.5 | 0.572834 | 33171.6 | 3.725221 |
| 2000 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 42113.2 | 0.623493 | 35780.74 | 4.018231 |
| 2000 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 44555.06 | 0.656989 | 37428.37 | 4.203263 |
| 2000 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 46347.97 | 0.680946 | 38554.02 | 4.329675 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 2000 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 47732.52 | 0.698954 | 39361.25 | 4.420328 |
| 2000 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 48842.71 | 0.71301 | 39961.39 | 4.487724 |
| 2000 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 49757.62 | 0.724281 | 40418.6 | 4.53907 |
| 2000 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 50527.85 | 0.73351 | 40773.13 | 4.578884 |
| 2000 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 51187.44 | 0.741193 | 41051.48 | 4.610143 |
| 2000 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 51760.23 | 0.747676 | 41271.87 | 4.634894 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 18966.87 | 0.276124 | 17057.06 | 1.896367 |
| 2000 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 32876.71 | 0.475799 | 28865.33 | 3.209184 |
| 2000 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 39125.48 | 0.563436 | 33789.07 | 3.756595 |
| 2000 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 42857.1 | 0.614542 | 36535.13 | 4.061896 |
| 2000 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 45399.36 | 0.648536 | 38285.92 | 4.256545 |
| 2000 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 47271.42 | 0.672976 | 39493.29 | 4.390778 |
| 2000 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 48719.81 | 0.691425 | 40366.76 | 4.487888 |
| 2000 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 49883.23 | 0.705886 | 41022.38 | 4.560778 |
| 2000 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 50843.4 | 0.71753 | 41526.99 | 4.61688 |
| 2000 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 51652.73 | 0.727101 | 41922.63 | 4.660866 |
| 2000 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 52346.53 | 0.735101 | 42237.12 | 4.695831 |
| 2000 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 52949.57 | 0.741878 | 42489.62 | 4.723903 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 19088.79 | 0.269145 | 17179.91 | 1.891103 |
| 2000 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 33270.95 | 0.466524 | 29263.72 | 3.221244 |
| 2000 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 39704.16 | 0.554156 | 34375.06 | 3.783883 |
| 2000 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 43567.15 | 0.605639 | 37255.4 | 4.10094 |
| 2000 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 46208.78 | 0.640079 | 39108.25 | 4.304895 |
| 2000 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 48159.79 | 0.664966 | 40397.05 | 4.446762 |
| 2000 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 49672.13 | 0.683827 | 41336.78 | 4.550204 |
| 2000 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 50889.08 | 0.69867 | 42048.12 | 4.628506 |
| 2000 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 51894.94 | 0.710667 | 42600.49 | 4.689308 |
| 2000 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 52743.86 | 0.720565 | 43037.68 | 4.737432 |
| 2000 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 53472.39 | 0.728867 | 43388.77 | 4.776079 |
| 2000 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 54106.24 | 0.735926 | 43673.86 | 4.807461 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 19201.59 | 0.262462 | 17293.63 | 1.884947 |
| 2000 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 33641.7 | 0.457475 | 29638.52 | 3.230497 |
| 2000 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 40253.13 | 0.545007 | 34931.16 | 3.807377 |
| 2000 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 44244.64 | 0.596798 | 37942.85 | 4.135641 |
| 2000 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 46984.33 | 0.631635 | 39896.36 | 4.348567 |
| 2000 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 49011.88 | 0.656901 | 41264.12 | 4.497648 |
| 2000 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 50590.01 | 0.676176 | 42271.9 | 4.607492 |
| 2000 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 51860.64 | 0.691377 | 43039.03 | 4.691107 |
| 2000 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 52912.47 | 0.703707 | 43639.36 | 4.756541 |
| 2000 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 53801.35 | 0.713915 | 44118.4 | 4.808755 |
| 2000 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 54565.04 | 0.722506 | 44506.46 | 4.851052 |
| 2000 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 55230.14 | 0.729833 | 44824.52 | 4.885719 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 8986.785 | 0.357887 | 7070.893 | 0.836337 |
| 1000 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 14957.02 | 0.585751 | 10918.49 | 1.291426 |
| 1000 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 17471.5 | 0.674058 | 12087.05 | 1.429642 |
| 1000 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 18923.21 | 0.720216 | 12533.81 | 1.482484 |
| 1000 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 19892.16 | 0.747686 | 12693.35 | 1.501354 |
| 1000 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 20593.38 | 0.765015 | 12713.18 | 1.5037 |
| 1000 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 21130.65 | 0.776328 | 12659.87 | 1.497395 |
| 1000 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 21558.27 | 0.783724 | 12564.95 | 1.486167 |
| 1000 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 21908.19 | 0.788417 | 12445.34 | 1.47202 |
| 1000 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 22201.4 | 0.791206 | 12311.58 | 1.456199 |
| 1000 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 22451.38 | 0.792589 | 12169.57 | 1.439402 |
| 1000 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 22667.66 | 0.79291 | 12023.14 | 1.422083 |
| | | | | | | | | | |
| 1000 | 29.182 | 0 | 20.868 | 2 | 1912.505 | 9045.742 | 0.348032 | 7133.237 | 0.814799 |
| 1000 | 29.182 | 0 | 20.868 | 4 | 4023.935 | 15139.97 | 0.573445 | 11116.03 | 1.269736 |
| 1000 | 29.182 | 0 | 20.868 | 6 | 5359.076 | 17735.66 | 0.662489 | 12376.58 | 1.413724 |
| 1000 | 29.182 | 0 | 20.868 | 8 | 6354.239 | 19245.65 | 0.70995 | 12891.41 | 1.47253 |
| 1000 | 29.182 | 0 | 20.868 | 10 | 7154.727 | 20257.95 | 0.738756 | 13103.23 | 1.496725 |
| 1000 | 29.182 | 0 | 20.868 | 12 | 7827.927 | 20994.41 | 0.757453 | 13166.48 | 1.50395 |
| 1000 | 29.182 | 0 | 20.868 | 14 | 8410.903 | 21560.21 | 0.770058 | 13149.3 | 1.501988 |
| 1000 | 29.182 | 0 | 20.868 | 16 | 8926.351 | 22011.76 | 0.778687 | 13085.41 | 1.494689 |
| 1000 | 29.182 | 0 | 20.868 | 18 | 9389.209 | 22382.65 | 0.784588 | 12993.44 | 1.484184 |
| 1000 | 29.182 | 0 | 20.868 | 20 | 9809.882 | 22693.6 | 0.788505 | 12883.72 | 1.471651 |
| 1000 | 29.182 | 0 | 20.868 | 22 | 10195.9 | 22959.45 | 0.790985 | 12763.55 | 1.457925 |
| 1000 | 29.182 | 0 | 20.868 | 24 | 10552.91 | 23189.86 | 0.792367 | 12636.95 | 1.443464 |
| | | | | | | | | | |
| 1000 | 30.182 | 0 | 21.868 | 2 | 1909.346 | 9101.277 | 0.338692 | 7191.931 | 0.794285 |
| 1000 | 30.182 | 0 | 21.868 | 4 | 4010.366 | 15313.7 | 0.561554 | 11303.33 | 1.248352 |
| 1000 | 30.182 | 0 | 21.868 | 6 | 5335.517 | 17988.03 | 0.651144 | 12652.52 | 1.397358 |
| 1000 | 30.182 | 0 | 21.868 | 8 | 6321.634 | 19554.12 | 0.69968 | 13232.49 | 1.46141 |
| 1000 | 30.182 | 0 | 21.868 | 10 | 7113.883 | 20608.98 | 0.729653 | 13495.1 | 1.490414 |
| 1000 | 30.182 | 0 | 21.868 | 12 | 7779.522 | 21379.59 | 0.749527 | 13600.07 | 1.502007 |
| 1000 | 30.182 | 0 | 21.868 | 14 | 8355.492 | 21973.41 | 0.763262 | 13617.92 | 1.503978 |
| 1000 | 30.182 | 0 | 21.868 | 16 | 8864.396 | 22448.58 | 0.772975 | 13584.19 | 1.500253 |
| 1000 | 30.182 | 0 | 21.868 | 18 | 9321.117 | 22839.71 | 0.779911 | 13518.6 | 1.493009 |
| 1000 | 30.182 | 0 | 21.868 | 20 | 9735.988 | 23168.85 | 0.784851 | 13432.86 | 1.48354 |
| 1000 | 30.182 | 0 | 21.868 | 22 | 10116.51 | 23450.16 | 0.788279 | 13333.65 | 1.472583 |
| 1000 | 30.182 | 0 | 21.868 | 24 | 10468.27 | 23694.62 | 0.790588 | 13226.34 | 1.460732 |
| | | | | | | | | | |
| 1000 | 31.182 | 0 | 22.868 | 2 | 1906.399 | 9153.675 | 0.329829 | 7247.276 | 0.774729 |
| 1000 | 31.182 | 0 | 22.868 | 4 | 3997.723 | 15478.88 | 0.550071 | 11481.15 | 1.227327 |
| 1000 | 31.182 | 0 | 22.868 | 6 | 5313.599 | 18228.97 | 0.640022 | 12915.37 | 1.380644 |
| 1000 | 31.182 | 0 | 22.868 | 8 | 6291.311 | 19849.51 | 0.689459 | 13558.2 | 1.449362 |
| 1000 | 31.182 | 0 | 22.868 | 10 | 7075.932 | 20945.87 | 0.72044 | 13869.94 | 1.482686 |
| 1000 | 31.182 | 0 | 22.868 | 12 | 7734.567 | 21750.02 | 0.741347 | 14015.45 | 1.498242 |
| 1000 | 31.182 | 0 | 22.868 | 14 | 8304.058 | 22371.07 | 0.756061 | 14067.01 | 1.503754 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 31.182 | 0 | 22.868 | 16 | 8806.925 | 22869.5 | 0.766729 | 14062.57 | 1.503279 |
| 1000 | 31.182 | 0 | 22.868 | 18 | 9257.968 | 23280.64 | 0.774579 | 14022.67 | 1.499014 |
| 1000 | 31.182 | 0 | 22.868 | 20 | 9667.486 | 23627.21 | 0.780394 | 13959.73 | 1.492285 |
| 1000 | 31.182 | 0 | 22.868 | 22 | 10042.92 | 23924.5 | 0.784693 | 13881.58 | 1.48393 |
| 1000 | 31.182 | 0 | 22.868 | 24 | 10389.86 | 24182.62 | 0.787804 | 13792.76 | 1.474436 |
| | | | | | | | | | |
| 1000 | 32.182 | 0 | 23.868 | 2 | 1903.642 | 9203.193 | 0.321408 | 7299.551 | 0.75607 |
| 1000 | 32.182 | 0 | 23.868 | 4 | 3985.905 | 15636.11 | 0.538982 | 11650.21 | 1.2067 |
| 1000 | 32.182 | 0 | 23.868 | 6 | 5293.148 | 18459.21 | 0.629137 | 13166.06 | 1.363709 |
| 1000 | 32.182 | 0 | 23.868 | 8 | 6263.05 | 20132.69 | 0.679328 | 13869.64 | 1.436583 |
| 1000 | 32.182 | 0 | 23.868 | 10 | 7040.574 | 21269.31 | 0.711171 | 14228.74 | 1.473778 |
| 1000 | 32.182 | 0 | 23.868 | 12 | 7692.721 | 22105.78 | 0.732957 | 14413.06 | 1.492869 |
| 1000 | 32.182 | 0 | 23.868 | 14 | 8256.202 | 22753.96 | 0.748554 | 14497.75 | 1.501642 |
| 1000 | 32.182 | 0 | 23.868 | 16 | 8753.449 | 23275.23 | 0.760065 | 14521.78 | 1.504131 |
| 1000 | 32.182 | 0 | 23.868 | 18 | 9199.247 | 23706.11 | 0.768724 | 14506.86 | 1.502585 |
| 1000 | 32.182 | 0 | 23.868 | 20 | 9603.793 | 24069.95 | 0.775315 | 14466.16 | 1.49837 |
| 1000 | 32.182 | 0 | 23.868 | 22 | 9974.53 | 24382.49 | 0.780357 | 14407.96 | 1.492342 |
| 1000 | 32.182 | 0 | 23.868 | 24 | 10316.99 | 24654.78 | 0.784212 | 14337.79 | 1.485073 |
| | | | | | | | | | |
| 1200 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 10784.15 | 0.345198 | 8868.255 | 1.048927 |
| 1200 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 17948.7 | 0.566071 | 13910.17 | 1.645279 |
| 1200 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 20965.27 | 0.652878 | 15580.82 | 1.842881 |
| 1200 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 22708.47 | 0.699312 | 16319.07 | 1.9302 |
| 1200 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 23869.87 | 0.727679 | 16671.06 | 1.971833 |
| 1200 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 24712.1 | 0.746384 | 16831.9 | 1.990857 |
| 1200 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 25356.74 | 0.759246 | 16885.97 | 1.997252 |
| 1200 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 25869.71 | 0.768317 | 16876.4 | 1.99612 |
| 1200 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 26289.84 | 0.774784 | 16826.99 | 1.990276 |
| 1200 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 26641.73 | 0.779392 | 16751.91 | 1.981396 |
| 1200 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 26941.85 | 0.78263 | 16660.04 | 1.970529 |
| 1200 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 27201.17 | 0.784811 | 16556.65 | 1.958301 |
| | | | | | | | | | |
| 1400 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 12581.53 | 0.33727 | 10665.64 | 1.261519 |
| 1400 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 20939.8 | 0.554027 | 16901.27 | 1.999063 |
| 1400 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 24459.57 | 0.640151 | 19075.12 | 2.256183 |
| 1400 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 26492.5 | 0.68684 | 20103.1 | 2.37777 |
| 1400 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 27848.18 | 0.715924 | 20649.37 | 2.442382 |
| 1400 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 28830.76 | 0.735512 | 20950.56 | 2.478007 |
| 1400 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 29582.87 | 0.74936 | 21112.09 | 2.497113 |
| 1400 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 30181.42 | 0.759472 | 21188.1 | 2.506104 |
| 1400 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 30671.46 | 0.767001 | 21208.62 | 2.50853 |
| 1400 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 31081.95 | 0.772685 | 21192.14 | 2.50658 |
| 1400 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 31431.94 | 0.776998 | 21150.12 | 2.501611 |
| 1400 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 31734.72 | 0.780269 | 21090.2 | 2.494524 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 14378.97 | 0.331849 | 12463.08 | 1.474118 |
| 1600 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 23931.2 | 0.545913 | 19892.68 | 2.352882 |
| 1600 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 27954.23 | 0.63166 | 22569.78 | 2.669527 |
| 1600 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 30277.19 | 0.678592 | 23887.78 | 2.825419 |
| 1600 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 31826.49 | 0.70818 | 24627.68 | 2.912933 |
| 1600 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 32949.41 | 0.728388 | 25069.21 | 2.965156 |
| 1600 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 33809.17 | 0.742919 | 25338.4 | 2.996995 |
| 1600 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 34492.95 | 0.753724 | 25499.64 | 3.016066 |
| 1600 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 35053.1 | 0.761969 | 25590.26 | 3.026785 |
| 1600 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 35522.31 | 0.768368 | 25632.49 | 3.031781 |
| 1600 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 35922.74 | 0.773404 | 25640.93 | 3.032778 |
| 1600 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 36268.23 | 0.77736 | 25623.71 | 3.030742 |
| | | | | | | | | | |
| 1800 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 16176.56 | 0.32791 | 14260.66 | 1.686734 |
| 1800 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 26922.61 | 0.540071 | 22884.08 | 2.706702 |
| 1800 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 31447.9 | 0.625563 | 26063.45 | 3.082754 |
| 1800 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 34062.06 | 0.672727 | 27672.66 | 3.273089 |
| 1800 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 35804.84 | 0.702695 | 28606.03 | 3.383487 |
| 1800 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 37068.09 | 0.72336 | 29187.89 | 3.452309 |
| 1800 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 38035.12 | 0.738378 | 29564.34 | 3.496835 |
| 1800 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 38805.13 | 0.749708 | 29811.82 | 3.526106 |
| 1800 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 39434.79 | 0.758448 | 29971.95 | 3.545046 |
| 1800 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 39962.51 | 0.76535 | 30072.69 | 3.556962 |
| 1800 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 40412.49 | 0.770873 | 30130.67 | 3.56382 |
| 1800 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 40801.81 | 0.775341 | 30157.29 | 3.566968 |
| | | | | | | | | | |
| 1800 | 29.182 | 0 | 20.868 | 2 | 1912.505 | 16282.74 | 0.318841 | 14370.23 | 1.641449 |
| 1800 | 29.182 | 0 | 20.868 | 4 | 4023.935 | 27251.9 | 0.528401 | 23227.96 | 2.653229 |
| 1800 | 29.182 | 0 | 20.868 | 6 | 5359.076 | 31924.19 | 0.614133 | 26565.11 | 3.034418 |
| 1800 | 29.182 | 0 | 20.868 | 8 | 6354.239 | 34642.67 | 0.661988 | 28288.43 | 3.231264 |
| 1800 | 29.182 | 0 | 20.868 | 10 | 7154.727 | 36464.14 | 0.692711 | 29309.41 | 3.347887 |
| 1800 | 29.182 | 0 | 20.868 | 12 | 7827.927 | 37789.95 | 0.714115 | 29962.03 | 3.422432 |
| 1800 | 29.182 | 0 | 20.868 | 14 | 8410.903 | 38808.36 | 0.72983 | 30397.46 | 3.47217 |
| 1800 | 29.182 | 0 | 20.868 | 16 | 8926.351 | 39621.07 | 0.741799 | 30694.72 | 3.506124 |
| 1800 | 29.182 | 0 | 20.868 | 18 | 9389.209 | 40288.79 | 0.751172 | 30899.59 | 3.529526 |
| 1800 | 29.182 | 0 | 20.868 | 20 | 9809.882 | 40848.53 | 0.758636 | 31038.65 | 3.545411 |
| 1800 | 29.182 | 0 | 20.868 | 22 | 10195.9 | 41327.01 | 0.764693 | 31131.11 | 3.555971 |
| 1800 | 29.182 | 0 | 20.868 | 24 | 10552.91 | 41741.75 | 0.769664 | 31188.84 | 3.562566 |
| | | | | | | | | | |
| 2000 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 17974.39 | 0.324922 | 16058.5 | 1.89938 |

| TIT | a | $k_1$ | b | $r_p$ | $W_c$ | $W_t$ | eth | $W_n$ | $W_s$ |
|---|---|---|---|---|---|---|---|---|---|
| 2000 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 29914.02 | 0.535665 | 25875.49 | 3.060522 |
| 2000 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 34942.11 | 0.620998 | 29557.67 | 3.496045 |
| 2000 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 37847.4 | 0.668351 | 31458 | 3.720814 |
| 2000 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 39783.31 | 0.698607 | 32584.5 | 3.854056 |
| 2000 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 41186.8 | 0.719622 | 33306.6 | 3.939465 |
| 2000 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 42261.24 | 0.735012 | 33790.47 | 3.996696 |
| 2000 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 43116.19 | 0.74671 | 34122.87 | 4.036013 |
| 2000 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 43816.38 | 0.755845 | 34353.53 | 4.063295 |
| 2000 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 44403.06 | 0.763132 | 34513.24 | 4.082185 |
| 2000 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 44902.79 | 0.769022 | 34620.97 | 4.094928 |
| 2000 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 45335.29 | 0.773854 | 34690.77 | 4.103183 |

### 3.2.3 For the one reheat in expansion process

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 5235.931 | 0.138325 | 3225.938 | 0.365977 |
| 1000 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 10018.83 | 0.239272 | 5567.635 | 0.631638 |
| 1000 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 12620.8 | 0.284317 | 6507.806 | 0.738299 |
| 1000 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 14383.94 | 0.31062 | 6974.065 | 0.791195 |
| 1000 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 15705.8 | 0.327872 | 7217.248 | 0.818783 |
| 1000 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 16756.99 | 0.339913 | 7337.136 | 0.832384 |
| 1000 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 17625.97 | 0.348616 | 7382.022 | 0.837477 |
| 1000 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 18364.34 | 0.354959 | 7376.208 | 0.836817 |
| 1000 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 19004.73 | 0.359676 | 7338.88 | 0.832582 |
| 1000 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 19569.04 | 0.363133 | 7278.458 | 0.825728 |
| 1000 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 20072.68 | 0.365606 | 7201.504 | 0.816997 |
| 1000 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 20526.84 | 0.367292 | 7112.518 | 0.806902 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 5242.772 | 0.135887 | 3234.956 | 0.36329 |
| 1000 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 10044.19 | 0.235715 | 5603.535 | 0.629285 |
| 1000 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 12661.32 | 0.280561 | 6568.016 | 0.737598 |
| 1000 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 14436.82 | 0.306913 | 7055.654 | 0.792361 |
| 1000 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 15769.06 | 0.324319 | 7317.949 | 0.821817 |
| 1000 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 16829.2 | 0.33657 | 7455.194 | 0.83723 |
| 1000 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 17706.05 | 0.345516 | 7516.043 | 0.844063 |
| 1000 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 18451.43 | 0.352189 | 7527.15 | 0.84531 |
| 1000 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 19098.16 | 0.357145 | 7502.069 | 0.842494 |
| 1000 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 19668.25 | 0.360906 | 7454.858 | 0.837192 |
| 1000 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 20177.2 | 0.363698 | 7390.438 | 0.829957 |
| 1000 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 20636.28 | 0.365715 | 7313.398 | 0.821306 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 5249.241 | 0.13353 | 3243.55 | 0.360611 |
| 1000 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 10068.28 | 0.232251 | 5637.853 | 0.626804 |
| 1000 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 12699.89 | 0.276881 | 6625.648 | 0.736625 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 14487.22 | 0.303259 | 7133.802 | 0.793121 |
| 1000 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 15829.43 | 0.320794 | 7414.437 | 0.824321 |
| 1000 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 16898.18 | 0.333227 | 7568.333 | 0.841431 |
| 1000 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 17782.6 | 0.342389 | 7644.49 | 0.849898 |
| 1000 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 18534.75 | 0.349299 | 7669.809 | 0.852713 |
| 1000 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 19187.6 | 0.354521 | 7658.404 | 0.851445 |
| 1000 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 19763.27 | 0.358554 | 7623.825 | 0.8476 |
| 1000 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 20277.36 | 0.361628 | 7571.381 | 0.84177 |
| 1000 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 20741.2 | 0.363937 | 7505.746 | 0.834472 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 5255.367 | 0.13125 | 3251.75 | 0.357941 |
| 1000 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 10091.17 | 0.228875 | 5670.693 | 0.624209 |
| 1000 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 12736.62 | 0.273276 | 6680.863 | 0.735405 |
| 1000 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 14535.3 | 0.299661 | 7208.718 | 0.79351 |
| 1000 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 15887.09 | 0.317302 | 7506.964 | 0.82634 |
| 1000 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 16964.12 | 0.329893 | 7676.846 | 0.845039 |
| 1000 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 17855.84 | 0.339245 | 7767.693 | 0.85504 |
| 1000 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 18614.52 | 0.346366 | 7806.647 | 0.859328 |
| 1000 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 19273.27 | 0.351871 | 7809.939 | 0.85969 |
| 1000 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 19854.34 | 0.356098 | 7785.816 | 0.857035 |
| 1000 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 20373.39 | 0.359423 | 7744.829 | 0.852523 |
| 1000 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 20841.83 | 0.361993 | 7690.097 | 0.846498 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 5261.177 | 0.129045 | 3259.585 | 0.355284 |
| 1000 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 10112.95 | 0.225587 | 5702.15 | 0.621515 |
| 1000 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 12771.65 | 0.269746 | 6733.81 | 0.733962 |
| 1000 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 14581.21 | 0.296119 | 7280.596 | 0.79356 |
| 1000 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 15942.2 | 0.313846 | 7595.764 | 0.827912 |
| 1000 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 17027.2 | 0.326575 | 7781.003 | 0.848103 |
| 1000 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 17925.95 | 0.336094 | 7885.96 | 0.859543 |
| 1000 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 18690.93 | 0.343403 | 7938.002 | 0.865215 |
| 1000 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 19355.38 | 0.349109 | 7953.534 | 0.866908 |
| 1000 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 19941.66 | 0.353608 | 7943.003 | 0.86576 |
| 1000 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 20465.51 | 0.357109 | 7911.237 | 0.862298 |
| 1000 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 20938.4 | 0.359911 | 7866.94 | 0.85747 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.004 | 20.868 | 2 | 2003.364 | 5242.971 | 0.134597 | 3239.607 | 0.355431 |
| 1000 | 29.182 | 0.004 | 20.868 | 4 | 4421.283 | 10045.64 | 0.233846 | 5624.355 | 0.617071 |
| 1000 | 29.182 | 0.004 | 20.868 | 6 | 6059.402 | 12664.31 | 0.278624 | 6604.91 | 0.724652 |
| 1000 | 29.182 | 0.004 | 20.868 | 8 | 7334.036 | 14441.35 | 0.305048 | 7107.312 | 0.779772 |
| 1000 | 29.182 | 0.004 | 20.868 | 10 | 8391.957 | 15775.07 | 0.322585 | 7383.113 | 0.810031 |
| 1000 | 29.182 | 0.004 | 20.868 | 12 | 9303.828 | 16836.61 | 0.334996 | 7532.785 | 0.826453 |
| 1000 | 29.182 | 0.004 | 20.868 | 14 | 10109.64 | 17714.78 | 0.344122 | 7605.146 | 0.834392 |
| 1000 | 29.182 | 0.004 | 20.868 | 16 | 10834.44 | 18461.42 | 0.350986 | 7626.987 | 0.836788 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 29.182 | 0.004 | 20.868 | 18 | 11497.38 | 19109.34 | 0.356143 | 7611.965 | 0.83514 |
| 1000 | 29.182 | 0.004 | 20.868 | 20 | 12106.34 | 19680.57 | 0.360112 | 7574.228 | 0.830999 |
| 1000 | 29.182 | 0.004 | 20.868 | 22 | 12671.82 | 20190.59 | 0.363117 | 7518.768 | 0.824915 |
| 1000 | 29.182 | 0.004 | 20.868 | 24 | 13200.47 | 20650.7 | 0.365353 | 7450.234 | 0.817396 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.005 | 20.868 | 2 | 2001.339 | 5249.423 | 0.132286 | 3248.084 | 0.352876 |
| 1000 | 29.182 | 0.005 | 20.868 | 4 | 4411.542 | 10069.61 | 0.23044 | 5658.07 | 0.6147 |
| 1000 | 29.182 | 0.005 | 20.868 | 6 | 6041.26 | 12702.66 | 0.274996 | 6661.396 | 0.723703 |
| 1000 | 29.182 | 0.005 | 20.868 | 8 | 7307.64 | 14491.43 | 0.301433 | 7183.785 | 0.780456 |
| 1000 | 29.182 | 0.005 | 20.868 | 10 | 8357.597 | 15835.02 | 0.319084 | 7477.422 | 0.812357 |
| 1000 | 29.182 | 0.005 | 20.868 | 12 | 9261.813 | 16905.08 | 0.331661 | 7643.267 | 0.830375 |
| 1000 | 29.182 | 0.005 | 20.868 | 14 | 10060.26 | 17790.74 | 0.340985 | 7730.482 | 0.83985 |
| 1000 | 29.182 | 0.005 | 20.868 | 16 | 10777.97 | 18544.07 | 0.348067 | 7766.105 | 0.84372 |
| 1000 | 29.182 | 0.005 | 20.868 | 18 | 11431.74 | 19198.04 | 0.353526 | 7766.299 | 0.843741 |
| 1000 | 29.182 | 0.005 | 20.868 | 20 | 12035.93 | 19774.78 | 0.35769 | 7738.845 | 0.840758 |
| 1000 | 29.182 | 0.005 | 20.868 | 22 | 12594.89 | 20289.87 | 0.360956 | 7694.985 | 0.835993 |
| 1000 | 29.182 | 0.005 | 20.868 | 24 | 13117.19 | 20754.68 | 0.363462 | 7637.496 | 0.829748 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.006 | 20.868 | 2 | 1999.361 | 5255.535 | 0.130051 | 3256.173 | 0.35033 |
| 1000 | 29.182 | 0.006 | 20.868 | 4 | 4402.068 | 10092.41 | 0.227121 | 5690.338 | 0.61222 |
| 1000 | 29.182 | 0.006 | 20.868 | 6 | 6023.664 | 12739.19 | 0.27144 | 6715.528 | 0.722519 |
| 1000 | 29.182 | 0.006 | 20.868 | 8 | 7282.092 | 14539.21 | 0.297874 | 7257.121 | 0.780789 |
| 1000 | 29.182 | 0.006 | 20.868 | 10 | 8324.398 | 15892.29 | 0.315618 | 7567.895 | 0.814225 |
| 1000 | 29.182 | 0.006 | 20.868 | 12 | 9221.274 | 16970.55 | 0.328339 | 7749.278 | 0.83374 |
| 1000 | 29.182 | 0.006 | 20.868 | 14 | 10012.68 | 17863.44 | 0.337836 | 7850.76 | 0.844658 |
| 1000 | 29.182 | 0.006 | 20.868 | 16 | 10723.61 | 18623.22 | 0.345114 | 7899.614 | 0.849914 |
| 1000 | 29.182 | 0.006 | 20.868 | 18 | 11370.84 | 19283.02 | 0.350781 | 7912.178 | 0.851266 |
| 1000 | 29.182 | 0.006 | 20.868 | 20 | 11968.34 | 19865.09 | 0.355177 | 7896.756 | 0.849607 |
| 1000 | 29.182 | 0.006 | 20.868 | 22 | 12521.09 | 20385.1 | 0.358676 | 7864.004 | 0.846083 |
| 1000 | 29.182 | 0.006 | 20.868 | 24 | 13037.37 | 20854.45 | 0.361422 | 7817.082 | 0.841035 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.007 | 20.868 | 2 | 1996.362 | 5261.331 | 0.127923 | 3264.969 | 0.347907 |
| 1000 | 29.182 | 0.007 | 20.868 | 4 | 4392.848 | 10114.1 | 0.223886 | 5721.251 | 0.609643 |
| 1000 | 29.182 | 0.007 | 20.868 | 6 | 6006.588 | 12774.04 | 0.267958 | 6767.45 | 0.721123 |
| 1000 | 29.182 | 0.007 | 20.868 | 8 | 7257.348 | 14584.85 | 0.294371 | 7327.504 | 0.780801 |
| 1000 | 29.182 | 0.007 | 20.868 | 10 | 8292.295 | 15947.05 | 0.312189 | 7654.757 | 0.815672 |
| 1000 | 29.182 | 0.007 | 20.868 | 12 | 9182.126 | 17033.2 | 0.325034 | 7851.077 | 0.836592 |
| 1000 | 29.182 | 0.007 | 20.868 | 14 | 9966.779 | 17933.05 | 0.334686 | 7966.271 | 0.848866 |
| 1000 | 29.182 | 0.007 | 20.868 | 16 | 10671.23 | 18699.06 | 0.342136 | 8027.838 | 0.855427 |
| 1000 | 29.182 | 0.007 | 20.868 | 18 | 11312.22 | 19364.5 | 0.34799 | 8052.282 | 0.858031 |
| 1000 | 29.182 | 0.007 | 20.868 | 20 | 11901.59 | 19951.73 | 0.352642 | 8050.136 | 0.857803 |
| 1000 | 29.182 | 0.007 | 20.868 | 22 | 12450.22 | 20476.48 | 0.356299 | 8026.253 | 0.855258 |
| 1000 | 29.182 | 0.007 | 20.868 | 24 | 12960.77 | 20950.23 | 0.359259 | 7989.455 | 0.851337 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.008 | 20.868 | 2 | 1994.535 | 5266.835 | 0.125826 | 3272.3 | 0.345376 |
| 1000 | 29.182 | 0.008 | 20.868 | 4 | 4383.872 | 10134.77 | 0.220733 | 5750.896 | 0.60698 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 29.182 | 0.008 | 20.868 | 6 | 5990.006 | 12807.3 | 0.264549 | 6817.293 | 0.719534 |
| 1000 | 29.182 | 0.008 | 20.868 | 8 | 7233.366 | 14628.47 | 0.290926 | 7395.109 | 0.780519 |
| 1000 | 29.182 | 0.008 | 20.868 | 10 | 8261.229 | 15999.44 | 0.308802 | 7738.215 | 0.816733 |
| 1000 | 29.182 | 0.008 | 20.868 | 12 | 9144.291 | 17093.2 | 0.321753 | 7948.905 | 0.83897 |
| 1000 | 29.182 | 0.008 | 20.868 | 14 | 9922.467 | 17999.75 | 0.33154 | 8077.286 | 0.85252 |
| 1000 | 29.182 | 0.008 | 20.868 | 16 | 10620.7 | 18771.78 | 0.339143 | 8151.075 | 0.860308 |
| 1000 | 29.182 | 0.008 | 20.868 | 18 | 11255.72 | 19442.66 | 0.345164 | 8186.938 | 0.864093 |
| 1000 | 29.182 | 0.008 | 20.868 | 20 | 11839.34 | 20034.87 | 0.349992 | 8195.528 | 0.865 |
| 1000 | 29.182 | 0.008 | 20.868 | 22 | 12380.22 | 20564.21 | 0.353893 | 8183.984 | 0.863781 |
| 1000 | 29.182 | 0.008 | 20.868 | 24 | 12887.18 | 21042.22 | 0.356996 | 8155.039 | 0.860726 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.004 | 21.868 | 2 | 1997.18 | 5249.606 | 0.131063 | 3252.426 | 0.345466 |
| 1000 | 30.182 | 0.004 | 21.868 | 4 | 4393.478 | 10070.94 | 0.228645 | 5677.46 | 0.603048 |
| 1000 | 30.182 | 0.004 | 21.868 | 6 | 6009.68 | 12705.4 | 0.273114 | 6695.721 | 0.711206 |
| 1000 | 30.182 | 0.004 | 21.868 | 8 | 7263.772 | 14495.59 | 0.299599 | 7231.819 | 0.768149 |
| 1000 | 30.182 | 0.004 | 21.868 | 10 | 8302.555 | 15840.55 | 0.317352 | 7537.994 | 0.800671 |
| 1000 | 30.182 | 0.004 | 21.868 | 12 | 9196.528 | 16911.9 | 0.330061 | 7715.374 | 0.819512 |
| 1000 | 30.182 | 0.004 | 21.868 | 14 | 9985.513 | 17798.79 | 0.339532 | 7813.277 | 0.829911 |
| 1000 | 30.182 | 0.004 | 21.868 | 16 | 10694.41 | 18553.28 | 0.346774 | 7858.866 | 0.834753 |
| 1000 | 30.182 | 0.004 | 21.868 | 18 | 11339.93 | 19208.34 | 0.3524 | 7868.407 | 0.835766 |
| 1000 | 30.182 | 0.004 | 21.868 | 20 | 11936.37 | 19786.13 | 0.356737 | 7849.755 | 0.833785 |
| 1000 | 30.182 | 0.004 | 21.868 | 22 | 12488 | 20302.22 | 0.360181 | 7814.222 | 0.830011 |
| 1000 | 30.182 | 0.004 | 21.868 | 24 | 13003.34 | 20767.98 | 0.362868 | 7764.64 | 0.824745 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.005 | 21.868 | 2 | 1994.19 | 5255.703 | 0.128908 | 3261.513 | 0.343151 |
| 1000 | 30.182 | 0.005 | 21.868 | 4 | 4384.446 | 10093.63 | 0.22538 | 5709.187 | 0.600676 |
| 1000 | 30.182 | 0.005 | 21.868 | 6 | 5992.912 | 12741.74 | 0.269608 | 6748.828 | 0.710059 |
| 1000 | 30.182 | 0.005 | 21.868 | 8 | 7239.43 | 14543.09 | 0.296079 | 7303.658 | 0.768434 |
| 1000 | 30.182 | 0.005 | 21.868 | 10 | 8270.923 | 15897.44 | 0.313914 | 7626.521 | 0.802403 |
| 1000 | 30.182 | 0.005 | 21.868 | 12 | 9157.901 | 16976.91 | 0.326753 | 7819.013 | 0.822656 |
| 1000 | 30.182 | 0.005 | 21.868 | 14 | 9940.169 | 17870.95 | 0.336384 | 7930.779 | 0.834415 |
| 1000 | 30.182 | 0.005 | 21.868 | 16 | 10642.61 | 18631.82 | 0.343806 | 7989.216 | 0.840563 |
| 1000 | 30.182 | 0.005 | 21.868 | 18 | 11281.89 | 19292.65 | 0.349625 | 8010.76 | 0.84283 |
| 1000 | 30.182 | 0.005 | 21.868 | 20 | 11871.93 | 19875.71 | 0.354177 | 8003.785 | 0.842096 |
| 1000 | 30.182 | 0.005 | 21.868 | 22 | 12417.63 | 20396.65 | 0.357836 | 7979.024 | 0.839491 |
| 1000 | 30.182 | 0.005 | 21.868 | 24 | 12927.22 | 20866.91 | 0.360746 | 7939.688 | 0.835352 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.006 | 21.868 | 2 | 1992.408 | 5261.486 | 0.126782 | 3269.078 | 0.340721 |
| 1000 | 30.182 | 0.006 | 21.868 | 4 | 4375.651 | 10115.24 | 0.222198 | 5739.587 | 0.59821 |
| 1000 | 30.182 | 0.006 | 21.868 | 6 | 5976.628 | 12776.41 | 0.266175 | 6799.778 | 0.708709 |
| 1000 | 30.182 | 0.006 | 21.868 | 8 | 7215.836 | 14588.46 | 0.292616 | 7372.626 | 0.768414 |
| 1000 | 30.182 | 0.006 | 21.868 | 10 | 8240.311 | 15951.86 | 0.310514 | 7711.545 | 0.803738 |
| 1000 | 30.182 | 0.006 | 21.868 | 12 | 9120.568 | 17039.14 | 0.323466 | 7918.574 | 0.825316 |
| 1000 | 30.182 | 0.006 | 21.868 | 14 | 9896.394 | 17940.07 | 0.333238 | 8043.673 | 0.838354 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 30.182 | 0.006 | 21.868 | 16 | 10592.64 | 18707.1 | 0.340819 | 8114.463 | 0.845732 |
| 1000 | 30.182 | 0.006 | 21.868 | 18 | 11225.97 | 19373.51 | 0.34681 | 8147.545 | 0.84918 |
| 1000 | 30.182 | 0.006 | 21.868 | 20 | 11808.14 | 19961.67 | 0.351603 | 8153.53 | 0.849804 |
| 1000 | 30.182 | 0.006 | 21.868 | 22 | 12349.99 | 20487.3 | 0.355405 | 8137.311 | 0.848114 |
| 1000 | 30.182 | 0.006 | 21.868 | 24 | 12854.1 | 20961.9 | 0.358514 | 8107.798 | 0.845038 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.007 | 21.868 | 2 | 1990.662 | 5266.977 | 0.124723 | 3276.316 | 0.338302 |
| 1000 | 30.182 | 0.007 | 21.868 | 4 | 4367.083 | 10135.82 | 0.219096 | 5768.742 | 0.595661 |
| 1000 | 30.182 | 0.007 | 21.868 | 6 | 5960.804 | 12809.5 | 0.262812 | 6848.699 | 0.707174 |
| 1000 | 30.182 | 0.007 | 21.868 | 8 | 7192.952 | 14631.84 | 0.28921 | 7438.889 | 0.768115 |
| 1000 | 30.182 | 0.007 | 21.868 | 10 | 8210.665 | 16003.93 | 0.307156 | 7793.264 | 0.804707 |
| 1000 | 30.182 | 0.007 | 21.868 | 12 | 9084.46 | 17098.75 | 0.320203 | 8014.287 | 0.827529 |
| 1000 | 30.182 | 0.007 | 21.868 | 14 | 9854.099 | 18006.32 | 0.330099 | 8152.218 | 0.841771 |
| 1000 | 30.182 | 0.007 | 21.868 | 16 | 10544.41 | 18779.3 | 0.337821 | 8234.892 | 0.850308 |
| 1000 | 30.182 | 0.007 | 21.868 | 18 | 11172.03 | 19451.1 | 0.343967 | 8279.071 | 0.85487 |
| 1000 | 30.182 | 0.007 | 21.868 | 20 | 11748.69 | 20044.18 | 0.348923 | 8295.487 | 0.856565 |
| 1000 | 30.182 | 0.007 | 21.868 | 22 | 12283.02 | 20574.36 | 0.352956 | 8291.337 | 0.856136 |
| 1000 | 30.182 | 0.007 | 21.868 | 24 | 12783.79 | 21053.17 | 0.356193 | 8269.373 | 0.853868 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.008 | 21.868 | 2 | 1988.951 | 5272.199 | 0.122728 | 3283.249 | 0.335896 |
| 1000 | 30.182 | 0.008 | 21.868 | 4 | 4358.732 | 10155.46 | 0.216072 | 5796.729 | 0.59304 |
| 1000 | 30.182 | 0.008 | 21.868 | 6 | 5945.42 | 12841.13 | 0.259519 | 6895.711 | 0.705472 |
| 1000 | 30.182 | 0.008 | 21.868 | 8 | 7170.743 | 14673.34 | 0.285861 | 7502.602 | 0.767561 |
| 1000 | 30.182 | 0.008 | 21.868 | 10 | 8181.936 | 16053.8 | 0.303842 | 7871.864 | 0.805339 |
| 1000 | 30.182 | 0.008 | 21.868 | 12 | 9049.509 | 17155.87 | 0.31697 | 8106.365 | 0.82933 |
| 1000 | 30.182 | 0.008 | 21.868 | 14 | 9813.203 | 18069.85 | 0.326974 | 8256.652 | 0.844705 |
| 1000 | 30.182 | 0.008 | 21.868 | 16 | 10497.82 | 18848.59 | 0.334822 | 8350.768 | 0.854333 |
| 1000 | 30.182 | 0.008 | 21.868 | 18 | 11119.96 | 19525.59 | 0.341105 | 8405.629 | 0.859946 |
| 1000 | 30.182 | 0.008 | 21.868 | 20 | 11691.36 | 20123.44 | 0.346208 | 8432.08 | 0.862652 |
| 1000 | 30.182 | 0.008 | 21.868 | 22 | 12220.59 | 20658 | 0.350394 | 8437.413 | 0.863198 |
| 1000 | 30.182 | 0.008 | 21.868 | 24 | 12714.18 | 21140.89 | 0.35385 | 8426.709 | 0.862103 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.004 | 22.868 | 2 | 1990.327 | 5255.872 | 0.127744 | 3265.545 | 0.336148 |
| 1000 | 31.182 | 0.004 | 22.868 | 4 | 4367.566 | 10094.85 | 0.223655 | 5727.287 | 0.589555 |
| 1000 | 31.182 | 0.004 | 22.868 | 6 | 5963.431 | 12744.27 | 0.267782 | 6780.836 | 0.698005 |
| 1000 | 31.182 | 0.004 | 22.868 | 8 | 7198.501 | 14546.93 | 0.294279 | 7348.426 | 0.756431 |
| 1000 | 31.182 | 0.004 | 22.868 | 10 | 8219.587 | 15902.54 | 0.312194 | 7682.956 | 0.790867 |
| 1000 | 31.182 | 0.004 | 22.868 | 12 | 9097.027 | 16983.21 | 0.32514 | 7886.181 | 0.811786 |
| 1000 | 31.182 | 0.004 | 22.868 | 14 | 9870.483 | 17878.37 | 0.334894 | 8007.89 | 0.824315 |
| 1000 | 31.182 | 0.004 | 22.868 | 16 | 10564.72 | 18640.32 | 0.342449 | 8075.599 | 0.831285 |
| 1000 | 31.182 | 0.004 | 22.868 | 18 | 11196.33 | 19302.17 | 0.348407 | 8105.841 | 0.834398 |
| 1000 | 31.182 | 0.004 | 22.868 | 20 | 11779.13 | 19886.19 | 0.353105 | 8107.064 | 0.834524 |
| 1000 | 31.182 | 0.004 | 22.868 | 22 | 12318 | 20408.06 | 0.356913 | 8090.057 | 0.832773 |
| 1000 | 31.182 | 0.004 | 22.868 | 24 | 12821.11 | 20879.2 | 0.359975 | 8058.084 | 0.829482 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 31.182 | 0.005 | 22.868 | 2 | 1988.623 | 5261.641 | 0.125658 | 3273.018 | 0.333825 |
| 1000 | 31.182 | 0.005 | 22.868 | 4 | 4359.169 | 10116.37 | 0.220525 | 5757.2 | 0.587194 |
| 1000 | 31.182 | 0.005 | 22.868 | 6 | 5947.89 | 12778.76 | 0.264397 | 6830.866 | 0.6967 |
| 1000 | 31.182 | 0.005 | 22.868 | 8 | 7175.988 | 14592.04 | 0.290856 | 7416.051 | 0.756385 |
| 1000 | 31.182 | 0.005 | 22.868 | 10 | 8190.378 | 15956.61 | 0.308825 | 7766.235 | 0.792101 |
| 1000 | 31.182 | 0.005 | 22.868 | 12 | 9061.405 | 17045.02 | 0.321872 | 7983.616 | 0.814273 |
| 1000 | 31.182 | 0.005 | 22.868 | 14 | 9828.711 | 17947.01 | 0.331755 | 8118.298 | 0.828009 |
| 1000 | 31.182 | 0.005 | 22.868 | 16 | 10517.04 | 18715.05 | 0.339457 | 8198.016 | 0.83614 |
| 1000 | 31.182 | 0.005 | 22.868 | 18 | 11142.95 | 19382.42 | 0.345575 | 8239.468 | 0.840368 |
| 1000 | 31.182 | 0.005 | 22.868 | 20 | 11718.15 | 19971.48 | 0.350499 | 8253.338 | 0.841782 |
| 1000 | 31.182 | 0.005 | 22.868 | 22 | 12253.42 | 20497.99 | 0.354437 | 8244.568 | 0.840888 |
| 1000 | 31.182 | 0.005 | 22.868 | 24 | 12751.29 | 20973.43 | 0.357683 | 8222.132 | 0.838599 |
| 1000 | 31.182 | 0.006 | 22.868 | 2 | 1986.953 | 5267.121 | 0.123637 | 3280.168 | 0.331511 |
| 1000 | 31.182 | 0.006 | 22.868 | 4 | 4350.983 | 10136.88 | 0.217473 | 5785.892 | 0.584753 |
| 1000 | 31.182 | 0.006 | 22.868 | 6 | 5932.779 | 12811.69 | 0.261081 | 6878.914 | 0.695219 |
| 1000 | 31.182 | 0.006 | 22.868 | 8 | 7154.136 | 14635.18 | 0.28749 | 7481.042 | 0.756073 |
| 1000 | 31.182 | 0.006 | 22.868 | 10 | 8162.07 | 16008.37 | 0.305497 | 7846.303 | 0.792988 |
| 1000 | 31.182 | 0.006 | 22.868 | 12 | 9026.924 | 17104.24 | 0.318631 | 8077.319 | 0.816336 |
| 1000 | 31.182 | 0.006 | 22.868 | 14 | 9788.32 | 18012.81 | 0.328627 | 8224.493 | 0.83121 |
| 1000 | 31.182 | 0.006 | 22.868 | 16 | 10470.97 | 18786.75 | 0.336459 | 8315.774 | 0.840436 |
| 1000 | 31.182 | 0.006 | 22.868 | 18 | 11091.43 | 19459.45 | 0.342719 | 8368.016 | 0.845715 |
| 1000 | 31.182 | 0.006 | 22.868 | 20 | 11661.36 | 20053.39 | 0.347795 | 8392.023 | 0.848142 |
| 1000 | 31.182 | 0.006 | 22.868 | 22 | 12189.33 | 20584.38 | 0.351951 | 8395.052 | 0.848448 |
| 1000 | 31.182 | 0.006 | 22.868 | 24 | 12684.1 | 21063.98 | 0.355313 | 8379.881 | 0.846915 |
| 1000 | 31.182 | 0.007 | 22.868 | 2 | 1985.316 | 5272.332 | 0.121678 | 3287.016 | 0.329209 |
| 1000 | 31.182 | 0.007 | 22.868 | 4 | 4343.001 | 10156.44 | 0.214496 | 5813.438 | 0.58224 |
| 1000 | 31.182 | 0.007 | 22.868 | 6 | 5918.077 | 12843.17 | 0.257833 | 6925.095 | 0.693578 |
| 1000 | 31.182 | 0.007 | 22.868 | 8 | 7132.915 | 14676.46 | 0.28418 | 7543.547 | 0.755518 |
| 1000 | 31.182 | 0.007 | 22.868 | 10 | 8134.617 | 16057.95 | 0.302214 | 7923.338 | 0.793556 |
| 1000 | 31.182 | 0.007 | 22.868 | 12 | 8993.525 | 17161.02 | 0.315419 | 8167.494 | 0.818009 |
| 1000 | 31.182 | 0.007 | 22.868 | 14 | 9749.235 | 18075.94 | 0.325514 | 8326.705 | 0.833955 |
| 1000 | 31.182 | 0.007 | 22.868 | 16 | 10426.44 | 18855.56 | 0.333462 | 8429.125 | 0.844213 |
| 1000 | 31.182 | 0.007 | 22.868 | 18 | 11041.66 | 19533.42 | 0.33985 | 8491.76 | 0.850486 |
| 1000 | 31.182 | 0.007 | 22.868 | 20 | 11606.55 | 20132.08 | 0.345062 | 8525.528 | 0.853868 |
| 1000 | 31.182 | 0.007 | 22.868 | 22 | 12129.64 | 20667.42 | 0.349359 | 8537.776 | 0.855094 |
| 1000 | 31.182 | 0.007 | 22.868 | 24 | 12617.42 | 21151.05 | 0.352929 | 8533.634 | 0.85468 |
| 1000 | 31.182 | 0.008 | 22.868 | 2 | 1983.71 | 5277.293 | 0.119779 | 3293.583 | 0.326919 |
| 1000 | 31.182 | 0.008 | 22.868 | 4 | 4335.214 | 10175.12 | 0.211593 | 5839.907 | 0.579666 |
| 1000 | 31.182 | 0.008 | 22.868 | 6 | 5903.767 | 12873.28 | 0.254653 | 6969.517 | 0.691791 |
| 1000 | 31.182 | 0.008 | 22.868 | 8 | 7112.294 | 14716 | 0.280928 | 7603.706 | 0.75474 |
| 1000 | 31.182 | 0.008 | 22.868 | 10 | 8107.978 | 16105.48 | 0.298976 | 7997.506 | 0.793829 |
| 1000 | 31.182 | 0.008 | 22.868 | 12 | 8961.151 | 17215.48 | 0.312241 | 8254.333 | 0.819321 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 31.182 | 0.008 | 22.868 | 14 | 9711.387 | 18136.53 | 0.322422 | 8425.148 | 0.836276 |
| 1000 | 31.182 | 0.008 | 22.868 | 16 | 10383.35 | 18921.66 | 0.330472 | 8538.306 | 0.847508 |
| 1000 | 31.182 | 0.008 | 22.868 | 18 | 10993.54 | 19604.5 | 0.336974 | 8610.957 | 0.854719 |
| 1000 | 31.182 | 0.008 | 22.868 | 20 | 11553.59 | 20207.72 | 0.342307 | 8654.129 | 0.859005 |
| 1000 | 31.182 | 0.008 | 22.868 | 22 | 12072.01 | 20747.27 | 0.346733 | 8675.256 | 0.861102 |
| 1000 | 31.182 | 0.008 | 22.868 | 24 | 12555.27 | 21234.8 | 0.350434 | 8679.536 | 0.861527 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.004 | 23.868 | 2 | 1984.996 | 5261.797 | 0.124552 | 3276.801 | 0.327202 |
| 1000 | 32.182 | 0.004 | 23.868 | 4 | 4343.362 | 10117.49 | 0.218867 | 5774.132 | 0.576571 |
| 1000 | 32.182 | 0.004 | 23.868 | 6 | 5920.309 | 12781.09 | 0.262625 | 6860.78 | 0.685078 |
| 1000 | 32.182 | 0.004 | 23.868 | 8 | 7137.717 | 14595.58 | 0.289094 | 7457.867 | 0.744699 |
| 1000 | 32.182 | 0.004 | 23.868 | 10 | 8142.394 | 15961.32 | 0.307123 | 7818.93 | 0.780753 |
| 1000 | 32.182 | 0.004 | 23.868 | 12 | 9004.521 | 17050.84 | 0.320258 | 8046.318 | 0.803459 |
| 1000 | 32.182 | 0.004 | 23.868 | 14 | 9763.604 | 17953.87 | 0.330243 | 8190.27 | 0.817833 |
| 1000 | 32.182 | 0.004 | 23.868 | 16 | 10444.28 | 18722.91 | 0.338055 | 8278.635 | 0.826657 |
| 1000 | 32.182 | 0.004 | 23.868 | 18 | 11063.03 | 19391.22 | 0.34429 | 8328.196 | 0.831605 |
| 1000 | 32.182 | 0.004 | 23.868 | 20 | 11631.48 | 19981.19 | 0.349337 | 8349.709 | 0.833754 |
| 1000 | 32.182 | 0.004 | 23.868 | 22 | 12160.37 | 20508.55 | 0.353401 | 8348.178 | 0.833601 |
| 1000 | 32.182 | 0.004 | 23.868 | 24 | 12652.19 | 20984.81 | 0.356775 | 8332.611 | 0.832046 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.005 | 23.868 | 2 | 1983.398 | 5267.265 | 0.122568 | 3283.867 | 0.324987 |
| 1000 | 32.182 | 0.005 | 23.868 | 4 | 4335.536 | 10137.92 | 0.215864 | 5802.385 | 0.574232 |
| 1000 | 32.182 | 0.005 | 23.868 | 6 | 5905.867 | 12813.87 | 0.259356 | 6907.999 | 0.683649 |
| 1000 | 32.182 | 0.005 | 23.868 | 8 | 7116.837 | 14638.49 | 0.285768 | 7521.65 | 0.744379 |
| 1000 | 32.182 | 0.005 | 23.868 | 10 | 8115.346 | 16012.77 | 0.303828 | 7897.429 | 0.781568 |
| 1000 | 32.182 | 0.005 | 23.868 | 12 | 8971.575 | 17109.69 | 0.317039 | 8138.11 | 0.805387 |
| 1000 | 32.182 | 0.005 | 23.868 | 14 | 9725.01 | 18019.24 | 0.327127 | 8294.231 | 0.820837 |
| 1000 | 32.182 | 0.005 | 23.868 | 16 | 10400.26 | 18794.11 | 0.33506 | 8393.85 | 0.830696 |
| 1000 | 32.182 | 0.005 | 23.868 | 18 | 11013.79 | 19467.7 | 0.341427 | 8453.908 | 0.83664 |
| 1000 | 32.182 | 0.005 | 23.868 | 20 | 11577.21 | 20062.49 | 0.346614 | 8485.278 | 0.839744 |
| 1000 | 32.182 | 0.005 | 23.868 | 22 | 12099.02 | 20594.29 | 0.350884 | 8495.274 | 0.840733 |
| 1000 | 32.182 | 0.005 | 23.868 | 24 | 12587.96 | 21074.67 | 0.354362 | 8486.711 | 0.839886 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.006 | 23.868 | 2 | 1981.83 | 5272.465 | 0.120644 | 3290.635 | 0.322782 |
| 1000 | 32.182 | 0.006 | 23.868 | 4 | 4327.9 | 10157.41 | 0.212934 | 5829.513 | 0.571824 |
| 1000 | 32.182 | 0.006 | 23.868 | 6 | 5891.808 | 12845.2 | 0.256153 | 6953.392 | 0.682066 |
| 1000 | 32.182 | 0.006 | 23.868 | 8 | 7096.546 | 14679.55 | 0.282497 | 7583.008 | 0.743826 |
| 1000 | 32.182 | 0.006 | 23.868 | 10 | 8089.098 | 16062.07 | 0.300576 | 7972.976 | 0.782078 |
| 1000 | 32.182 | 0.006 | 23.868 | 12 | 8939.64 | 17166.12 | 0.313851 | 8226.475 | 0.806944 |
| 1000 | 32.182 | 0.006 | 23.868 | 14 | 9687.637 | 18081.96 | 0.32403 | 8394.327 | 0.823409 |
| 1000 | 32.182 | 0.006 | 23.868 | 16 | 10357.67 | 18862.47 | 0.332069 | 8504.796 | 0.834245 |
| 1000 | 32.182 | 0.006 | 23.868 | 18 | 10966.2 | 19541.17 | 0.338554 | 8574.97 | 0.841129 |
| 1000 | 32.182 | 0.006 | 23.868 | 20 | 11524.78 | 20140.62 | 0.343867 | 8615.838 | 0.845137 |
| 1000 | 32.182 | 0.006 | 23.868 | 22 | 12041.93 | 20676.73 | 0.348269 | 8634.8 | 0.846997 |
| 1000 | 32.182 | 0.006 | 23.868 | 24 | 12524.06 | 21161.09 | 0.351944 | 8637.033 | 0.847216 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 32.182 | 0.007 | 23.868 | 2 | 1980.292 | 5277.416 | 0.118778 | 3297.124 | 0.320588 |
| 1000 | 32.182 | 0.007 | 23.868 | 4 | 4320.446 | 10176.03 | 0.210076 | 5855.582 | 0.569354 |
| 1000 | 32.182 | 0.007 | 23.868 | 6 | 5878.115 | 12875.18 | 0.253016 | 6997.063 | 0.680344 |
| 1000 | 32.182 | 0.007 | 23.868 | 8 | 7076.817 | 14718.89 | 0.279283 | 7642.076 | 0.74306 |
| 1000 | 32.182 | 0.007 | 23.868 | 10 | 8063.609 | 16109.34 | 0.29737 | 8045.732 | 0.782309 |
| 1000 | 32.182 | 0.007 | 23.868 | 12 | 8908.664 | 17220.26 | 0.310697 | 8311.597 | 0.808159 |
| 1000 | 32.182 | 0.007 | 23.868 | 14 | 9651.421 | 18142.19 | 0.320954 | 8490.765 | 0.825581 |
| 1000 | 32.182 | 0.007 | 23.868 | 16 | 10316.44 | 18928.14 | 0.329087 | 8611.698 | 0.837339 |
| 1000 | 32.182 | 0.007 | 23.868 | 18 | 10920.14 | 19611.77 | 0.335678 | 8691.629 | 0.845111 |
| 1000 | 32.182 | 0.007 | 23.868 | 20 | 11474.09 | 20215.75 | 0.341104 | 8741.653 | 0.849975 |
| 1000 | 32.182 | 0.007 | 23.868 | 22 | 11986.76 | 20756.02 | 0.345624 | 8769.257 | 0.852659 |
| 1000 | 32.182 | 0.007 | 23.868 | 24 | 12464.56 | 21244.25 | 0.349422 | 8779.685 | 0.853673 |
| 1000 | 32.182 | 0.008 | 23.868 | 2 | 1978.783 | 5282.136 | 0.116967 | 3303.353 | 0.318408 |
| 1000 | 32.182 | 0.008 | 23.868 | 4 | 4313.168 | 10193.82 | 0.207287 | 5880.655 | 0.566832 |
| 1000 | 32.182 | 0.008 | 23.868 | 6 | 5864.773 | 12903.88 | 0.249944 | 7039.109 | 0.678494 |
| 1000 | 32.182 | 0.008 | 23.868 | 8 | 7057.624 | 14756.6 | 0.276125 | 7698.979 | 0.742099 |
| 1000 | 32.182 | 0.008 | 23.868 | 10 | 8038.846 | 16154.69 | 0.294211 | 8115.846 | 0.78228 |
| 1000 | 32.182 | 0.008 | 23.868 | 12 | 8878.601 | 17272.25 | 0.307579 | 8393.646 | 0.809057 |
| 1000 | 32.182 | 0.008 | 23.868 | 14 | 9616.304 | 18200.04 | 0.317902 | 8583.737 | 0.82738 |
| 1000 | 32.182 | 0.008 | 23.868 | 16 | 10276.49 | 18991.26 | 0.326119 | 8714.768 | 0.84001 |
| 1000 | 32.182 | 0.008 | 23.868 | 18 | 10875.56 | 19679.67 | 0.332803 | 8804.112 | 0.848622 |
| 1000 | 32.182 | 0.008 | 23.868 | 20 | 11425.04 | 20288.01 | 0.338331 | 8862.969 | 0.854295 |
| 1000 | 32.182 | 0.008 | 23.868 | 22 | 11933.41 | 20832.32 | 0.342958 | 8898.908 | 0.857759 |
| 1000 | 32.182 | 0.008 | 23.868 | 24 | 12407.06 | 21324.3 | 0.346868 | 8917.238 | 0.859526 |
| 1200 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 6289.817 | 0.139247 | 4279.825 | 0.485538 |
| 1200 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 12047.12 | 0.243491 | 7595.92 | 0.861743 |
| 1200 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 15184.08 | 0.291696 | 9071.086 | 1.029098 |
| 1200 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 17311.75 | 0.320943 | 9901.874 | 1.123349 |
| 1200 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 18907.99 | 0.340982 | 10419.43 | 1.182065 |
| 1200 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 20178.04 | 0.355698 | 10758.18 | 1.220496 |
| 1200 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 21228.39 | 0.366997 | 10984.44 | 1.246164 |
| 1200 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 22121.19 | 0.375899 | 11133.06 | 1.263025 |
| 1200 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 22895.76 | 0.383124 | 11229.91 | 1.274013 |
| 1200 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 23578.51 | 0.389063 | 11287.92 | 1.280594 |
| 1200 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 24187.98 | 0.394002 | 11316.81 | 1.283871 |
| 1200 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 24737.72 | 0.398145 | 11323.39 | 1.284618 |
| 1200 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 6299.167 | 0.136436 | 4291.351 | 0.481925 |
| 1200 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 12081.97 | 0.23927 | 7641.31 | 0.858131 |
| 1200 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 15239.89 | 0.287101 | 9146.579 | 1.027175 |
| 1200 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 17384.68 | 0.316251 | 10003.51 | 1.12341 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 18995.33 | 0.336306 | 10544.22 | 1.184131 |
| 1200 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 20277.82 | 0.351096 | 10903.82 | 1.224515 |
| 1200 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 21339.13 | 0.3625 | 11149.13 | 1.252064 |
| 1200 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 22241.71 | 0.371571 | 11317.43 | 1.270964 |
| 1200 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 23025.12 | 0.378903 | 11429.03 | 1.283498 |
| 1200 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 23715.93 | 0.384993 | 11502.54 | 1.291753 |
| 1200 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 24332.83 | 0.390091 | 11546.07 | 1.296641 |
| 1200 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 24889.44 | 0.3944 | 11566.56 | 1.298942 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 6307.927 | 0.133732 | 4302.236 | 0.478313 |
| 1200 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 12114.77 | 0.235179 | 7684.341 | 0.854328 |
| 1200 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 15292.53 | 0.282625 | 9218.293 | 1.02487 |
| 1200 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 17453.6 | 0.311661 | 10100.18 | 1.122916 |
| 1200 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 19077.98 | 0.331715 | 10662.99 | 1.185488 |
| 1200 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 20372.36 | 0.346559 | 11042.51 | 1.227683 |
| 1200 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 21444.14 | 0.358051 | 11306.02 | 1.256979 |
| 1200 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 22356.08 | 0.367229 | 11491.14 | 1.27756 |
| 1200 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 23147.97 | 0.37469 | 11618.78 | 1.29175 |
| 1200 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 23846.52 | 0.380912 | 11707.07 | 1.301567 |
| 1200 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 24470.55 | 0.386149 | 11764.57 | 1.307959 |
| 1200 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 25033.76 | 0.390601 | 11798.31 | 1.31171 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 6316.151 | 0.131129 | 4312.533 | 0.474708 |
| 1200 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 12145.68 | 0.231212 | 7725.197 | 0.850362 |
| 1200 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 15342.26 | 0.278266 | 9286.503 | 1.022225 |
| 1200 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 17518.81 | 0.307174 | 10192.22 | 1.121923 |
| 1200 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 19156.29 | 0.32721 | 10776.16 | 1.186201 |
| 1200 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 20462.01 | 0.342093 | 11174.74 | 1.230075 |
| 1200 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 21543.8 | 0.353655 | 11455.66 | 1.260997 |
| 1200 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 22464.72 | 0.362924 | 11656.85 | 1.283144 |
| 1200 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 23264.73 | 0.370526 | 11801.4 | 1.299055 |
| 1200 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 23970.71 | 0.376832 | 11902.18 | 1.31015 |
| 1200 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 24601.58 | 0.38219 | 11973.02 | 1.317947 |
| 1200 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 25171.14 | 0.386769 | 12019.4 | 1.323053 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 6323.884 | 0.128623 | 4322.293 | 0.471115 |
| 1200 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 12174.85 | 0.227366 | 7764.041 | 0.846254 |
| 1200 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 15389.3 | 0.27402 | 9351.462 | 1.019277 |
| 1200 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 17580.58 | 0.302788 | 10279.97 | 1.120481 |
| 1200 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 19230.55 | 0.322793 | 10884.12 | 1.186331 |
| 1200 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 20547.12 | 0.3377 | 11300.92 | 1.231762 |
| 1200 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 21638.49 | 0.349319 | 11598.5 | 1.264196 |
| 1200 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 22568 | 0.358663 | 11815.07 | 1.287802 |
| 1200 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 23375.79 | 0.366354 | 11973.95 | 1.305119 |
| 1200 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 24088.9 | 0.372797 | 12090.24 | 1.317795 |
| 1200 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 24726.35 | 0.378229 | 12172.07 | 1.326714 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 25302 | 0.382918 | 12230.54 | 1.333087 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 7345.775 | 0.139246 | 5335.782 | 0.605335 |
| 1400 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 14082.51 | 0.245103 | 9631.316 | 1.092655 |
| 1400 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 17758.7 | 0.294973 | 11645.7 | 1.321183 |
| 1400 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 20254.38 | 0.325763 | 12844.5 | 1.457185 |
| 1400 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 22127.94 | 0.347238 | 13639.38 | 1.547362 |
| 1400 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 23619.4 | 0.363306 | 14199.55 | 1.610912 |
| 1400 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 24853.39 | 0.37589 | 14609.44 | 1.657414 |
| 1400 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 25902.65 | 0.386035 | 14914.52 | 1.692024 |
| 1400 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 26813.23 | 0.394453 | 15147.39 | 1.718443 |
| 1400 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 27616.08 | 0.401549 | 15325.5 | 1.738649 |
| 1400 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 28332.95 | 0.407617 | 15461.77 | 1.75411 |
| 1400 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 28979.68 | 0.412866 | 15565.36 | 1.765861 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 7357.83 | 0.136091 | 5350.014 | 0.600815 |
| 1400 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 14127.8 | 0.240291 | 9687.145 | 1.087881 |
| 1400 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 17831.38 | 0.289659 | 11738.07 | 1.318203 |
| 1400 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 20349.5 | 0.320258 | 12968.34 | 1.456364 |
| 1400 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 22241.99 | 0.341669 | 13790.88 | 1.548736 |
| 1400 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 23749.82 | 0.357737 | 14375.81 | 1.614426 |
| 1400 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 24998.22 | 0.370358 | 14808.22 | 1.662985 |
| 1400 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 26060.37 | 0.380595 | 15136.09 | 1.699805 |
| 1400 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 26982.61 | 0.389061 | 15386.52 | 1.72793 |
| 1400 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 27796.11 | 0.396243 | 15582.71 | 1.749962 |
| 1400 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 28522.77 | 0.402403 | 15736.01 | 1.767178 |
| 1400 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 29178.58 | 0.407749 | 15855.7 | 1.780619 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 7369.033 | 0.133071 | 5363.342 | 0.596285 |
| 1400 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 14170.06 | 0.235647 | 9739.634 | 1.082831 |
| 1400 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 17899.38 | 0.284505 | 11825.14 | 1.314693 |
| 1400 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 20438.66 | 0.314899 | 13085.25 | 1.454789 |
| 1400 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 22349.05 | 0.336232 | 13934.06 | 1.549158 |
| 1400 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 23872.38 | 0.352285 | 14542.54 | 1.616808 |
| 1400 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 25134.47 | 0.364928 | 14996.36 | 1.667262 |
| 1400 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 26208.87 | 0.375208 | 15343.92 | 1.705904 |
| 1400 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 27142.21 | 0.38374 | 15613.01 | 1.735821 |
| 1400 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 27965.85 | 0.390992 | 15826.4 | 1.759545 |
| 1400 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 28701.86 | 0.39723 | 15995.88 | 1.778388 |
| 1400 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 29366.34 | 0.402659 | 16130.89 | 1.793397 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 7379.469 | 0.130178 | 5375.852 | 0.591754 |
| 1400 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 14209.56 | 0.231164 | 9789.082 | 1.077547 |
| 1400 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 17963.1 | 0.279508 | 11907.34 | 1.310717 |
| 1400 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 20522.37 | 0.309685 | 13195.78 | 1.452544 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 22449.69 | 0.330926 | 14069.56 | 1.548727 |
| 1400 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 23987.73 | 0.346952 | 14700.45 | 1.618173 |
| 1400 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 25262.81 | 0.359603 | 15174.66 | 1.670372 |
| 1400 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 26348.86 | 0.369914 | 15540.98 | 1.710695 |
| 1400 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 27292.76 | 0.378521 | 15829.43 | 1.742447 |
| 1400 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 28126.07 | 0.385806 | 16057.55 | 1.767557 |
| 1400 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 28871 | 0.392109 | 16242.44 | 1.787909 |
| 1400 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 29543.76 | 0.397607 | 16392.03 | 1.804375 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 7389.21 | 0.127404 | 5387.619 | 0.587232 |
| 1400 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 14246.56 | 0.226836 | 9835.751 | 1.072063 |
| 1400 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 18022.92 | 0.274663 | 11985.08 | 1.306333 |
| 1400 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 20601.06 | 0.304614 | 13300.45 | 1.449703 |
| 1400 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 22544.43 | 0.325752 | 14197.99 | 1.547533 |
| 1400 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 24096.42 | 0.341738 | 14850.22 | 1.618623 |
| 1400 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 25383.85 | 0.354386 | 15343.85 | 1.672427 |
| 1400 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 26480.98 | 0.364717 | 15728.05 | 1.714304 |
| 1400 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 27434.95 | 0.373358 | 16033.1 | 1.747553 |
| 1400 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 28277.48 | 0.380718 | 16278.82 | 1.774335 |
| 1400 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 29030.91 | 0.387049 | 16476.64 | 1.795897 |
| 1400 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 29711.57 | 0.392606 | 16640.11 | 1.813715 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 8403.867 | 0.13878 | 6393.874 | 0.725373 |
| 1600 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 16124.72 | 0.245417 | 11673.53 | 1.32434 |
| 1600 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 20344.09 | 0.296249 | 14231.09 | 1.614491 |
| 1600 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 23211.07 | 0.327953 | 15801.19 | 1.792616 |
| 1600 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 25364.75 | 0.350278 | 16876.19 | 1.914573 |
| 1600 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 27080.06 | 0.367142 | 17660.21 | 2.003517 |
| 1600 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 28499.83 | 0.380476 | 18255.88 | 2.071096 |
| 1600 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 29707.47 | 0.391341 | 18719.34 | 2.123675 |
| 1600 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 30755.82 | 0.400442 | 19089.98 | 2.165722 |
| 1600 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 31680.38 | 0.408195 | 19389.8 | 2.199737 |
| 1600 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 32506.11 | 0.414898 | 19634.94 | 2.227547 |
| 1600 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 33251.22 | 0.420762 | 19836.89 | 2.250459 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 8418.733 | 0.135302 | 6410.918 | 0.719956 |
| 1600 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 16181.21 | 0.240059 | 11740.55 | 1.318482 |
| 1600 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 20434.98 | 0.290281 | 14341.67 | 1.610591 |
| 1600 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 23330.2 | 0.32172 | 15949.04 | 1.791101 |
| 1600 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 25507.73 | 0.343925 | 17056.62 | 1.915485 |
| 1600 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 27243.7 | 0.36074 | 17869.7 | 2.006794 |
| 1600 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 28681.68 | 0.374067 | 18491.68 | 2.076643 |
| 1600 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 29905.62 | 0.384975 | 18981.34 | 2.131633 |
| 1600 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 30968.73 | 0.394091 | 19372.64 | 2.175577 |
| 1600 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 31906.77 | 0.401892 | 19693.37 | 2.211596 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 32744.92 | 0.40865 | 19958.16 | 2.241331 |
| 1600 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 33501.53 | 0.414575 | 20178.65 | 2.266093 |
| 1600 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 8432.453 | 0.131989 | 6426.761 | 0.714513 |
| 1600 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 16233.49 | 0.234909 | 11803.06 | 1.312239 |
| 1600 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 20519.33 | 0.284517 | 14445.09 | 1.605974 |
| 1600 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 23440.98 | 0.315679 | 16087.56 | 1.78858 |
| 1600 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 25640.91 | 0.337749 | 17225.91 | 1.91514 |
| 1600 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 27396.3 | 0.354501 | 18066.46 | 2.008589 |
| 1600 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 28851.45 | 0.367807 | 18713.33 | 2.080508 |
| 1600 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 30090.77 | 0.37872 | 19225.83 | 2.137486 |
| 1600 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 31167.82 | 0.387863 | 19638.63 | 2.18338 |
| 1600 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 32118.63 | 0.395698 | 19979.18 | 2.221241 |
| 1600 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 32968.54 | 0.402498 | 20262.57 | 2.252748 |
| 1600 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 33736.08 | 0.408472 | 20500.63 | 2.279215 |
| 1600 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 8445.147 | 0.128829 | 6441.53 | 0.70906 |
| 1600 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 16281.99 | 0.229958 | 11861.51 | 1.305672 |
| 1600 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 20597.78 | 0.27895 | 14542.02 | 1.600733 |
| 1600 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 23544.2 | 0.309826 | 16217.62 | 1.785177 |
| 1600 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 25765.17 | 0.331749 | 17385.04 | 1.913683 |
| 1600 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 27538.85 | 0.348426 | 18251.58 | 2.009068 |
| 1600 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 29010.19 | 0.361699 | 18922.04 | 2.08287 |
| 1600 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 30264.05 | 0.372605 | 19456.17 | 2.141665 |
| 1600 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 31354.29 | 0.381781 | 19890.96 | 2.189525 |
| 1600 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 32317.17 | 0.389621 | 20248.65 | 2.228898 |
| 1600 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 33178.24 | 0.396453 | 20549.68 | 2.262034 |
| 1600 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 33956.13 | 0.402464 | 20804.4 | 2.290073 |
| 1600 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 8456.923 | 0.125813 | 6455.332 | 0.703609 |
| 1600 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 16327.09 | 0.225196 | 11916.28 | 1.298834 |
| 1600 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 20670.9 | 0.273573 | 14633.06 | 1.594953 |
| 1600 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 23640.56 | 0.304155 | 16339.95 | 1.780998 |
| 1600 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 25881.32 | 0.325922 | 17534.89 | 1.911243 |
| 1600 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 27672.25 | 0.342515 | 18426.05 | 2.008376 |
| 1600 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 29158.86 | 0.355745 | 19118.87 | 2.083891 |
| 1600 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 30426.46 | 0.366634 | 19673.53 | 2.144347 |
| 1600 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 31529.18 | 0.37581 | 20127.33 | 2.19381 |
| 1600 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 32503.51 | 0.383686 | 20504.85 | 2.234958 |
| 1600 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 33375.14 | 0.390521 | 20820.87 | 2.269403 |
| 1600 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 34162.86 | 0.39656 | 21091.4 | 2.29889 |
| 1800 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 9464.196 | 0.138054 | 7454.203 | 0.845666 |
| 1800 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 18173.52 | 0.245002 | 13722.32 | 1.556772 |
| 1800 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 22939.79 | 0.296412 | 16826.79 | 1.908968 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1800 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 26181.17 | 0.328691 | 18771.29 | 2.129568 |
| 1800 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 28617.61 | 0.351562 | 20129.06 | 2.283604 |
| 1800 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 30559.08 | 0.368938 | 21139.22 | 2.398206 |
| 1800 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 32166.67 | 0.382755 | 21922.72 | 2.487092 |
| 1800 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 33534.54 | 0.39408 | 22546.41 | 2.557848 |
| 1800 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 34722.32 | 0.403618 | 23056.48 | 2.615714 |
| 1800 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 35770.12 | 0.411789 | 23479.53 | 2.66371 |
| 1800 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 36706.13 | 0.418893 | 23834.95 | 2.704031 |
| 1800 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 37550.92 | 0.425144 | 24136.59 | 2.738251 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 9481.878 | 0.13427 | 7474.062 | 0.839348 |
| 1800 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 18241.79 | 0.23913 | 13801.13 | 1.549887 |
| 1800 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 23049.96 | 0.289833 | 16956.65 | 1.904257 |
| 1800 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 26325.8 | 0.321786 | 18944.64 | 2.127511 |
| 1800 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 28791.39 | 0.344489 | 20340.28 | 2.284245 |
| 1800 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 30758.13 | 0.361778 | 21384.12 | 2.401469 |
| 1800 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 32388.02 | 0.375554 | 22198.02 | 2.492871 |
| 1800 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 33775.86 | 0.386889 | 22851.58 | 2.566267 |
| 1800 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 34981.75 | 0.396418 | 23385.66 | 2.626245 |
| 1800 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 36046.09 | 0.404611 | 23832.7 | 2.676448 |
| 1800 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 36997.35 | 0.411745 | 24210.59 | 2.718886 |
| 1800 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 37856.28 | 0.418034 | 24533.4 | 2.755138 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 9498.106 | 0.130682 | 7492.415 | 0.83299 |
| 1800 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 18304.48 | 0.233509 | 13874.06 | 1.542487 |
| 1800 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 23151.42 | 0.283503 | 17077.18 | 1.898603 |
| 1800 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 26459.27 | 0.315118 | 19105.85 | 2.124147 |
| 1800 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 28952.03 | 0.33764 | 20537.04 | 2.283263 |
| 1800 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 30942.36 | 0.354828 | 21612.51 | 2.402832 |
| 1800 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 32593.13 | 0.368551 | 22455.02 | 2.4965 |
| 1800 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 33999.7 | 0.379862 | 23134.76 | 2.572072 |
| 1800 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 35222.57 | 0.38939 | 23693.38 | 2.634178 |
| 1800 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 36302.47 | 0.397592 | 24163.03 | 2.686392 |
| 1800 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 37268.09 | 0.404745 | 24562.11 | 2.730762 |
| 1800 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 38140.35 | 0.41106 | 24904.9 | 2.768873 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 9513.043 | 0.127276 | 7509.426 | 0.826611 |
| 1800 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 18362.23 | 0.228126 | 13941.76 | 1.534658 |
| 1800 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 23245.1 | 0.277413 | 17189.34 | 1.892141 |
| 1800 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 26582.74 | 0.308682 | 19256.16 | 2.119648 |
| 1800 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 29100.85 | 0.331011 | 20720.73 | 2.280863 |
| 1800 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 31113.25 | 0.348088 | 21825.98 | 2.402525 |
| 1800 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 32783.58 | 0.361746 | 22695.43 | 2.498231 |
| 1800 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 34207.72 | 0.373022 | 23399.85 | 2.575771 |
| 1800 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 35446.56 | 0.382553 | 23983.23 | 2.639987 |
| 1800 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 36541.09 | 0.390738 | 24472.57 | 2.693852 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1800 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 37520.22 | 0.397901 | 24891.66 | 2.739984 |
| 1800 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 38405.05 | 0.404231 | 25253.31 | 2.779794 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 9526.829 | 0.124039 | 7525.238 | 0.820225 |
| 1800 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 18415.58 | 0.222969 | 14004.78 | 1.526473 |
| 1800 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 23331.83 | 0.271554 | 17294 | 1.884986 |
| 1800 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 26697.24 | 0.30247 | 19396.63 | 2.114166 |
| 1800 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 29239.04 | 0.324599 | 20892.6 | 2.277222 |
| 1800 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 31272.1 | 0.341555 | 22025.91 | 2.400748 |
| 1800 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 32960.77 | 0.355138 | 22920.78 | 2.498286 |
| 1800 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 34401.41 | 0.366369 | 23648.48 | 2.577604 |
| 1800 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 35655.26 | 0.375876 | 24253.41 | 2.643539 |
| 1800 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 36763.57 | 0.38407 | 24764.91 | 2.69929 |
| 1800 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 37755.43 | 0.391217 | 25201.15 | 2.746839 |
| 1800 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 38652.1 | 0.397555 | 25580.63 | 2.788201 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.004 | 19.868 | 2 | 2009.993 | 10526.88 | 0.137176 | 8516.883 | 0.966225 |
| 2000 | 28.182 | 0.004 | 19.868 | 4 | 4451.196 | 20228.72 | 0.244144 | 15777.53 | 1.789931 |
| 2000 | 28.182 | 0.004 | 19.868 | 6 | 6112.997 | 25545.39 | 0.295897 | 19432.39 | 2.204569 |
| 2000 | 28.182 | 0.004 | 19.868 | 8 | 7409.877 | 29164.1 | 0.328553 | 21754.22 | 2.467976 |
| 2000 | 28.182 | 0.004 | 19.868 | 10 | 8488.554 | 31885.81 | 0.35179 | 23397.26 | 2.654375 |
| 2000 | 28.182 | 0.004 | 19.868 | 12 | 9419.856 | 34055.62 | 0.369513 | 24635.76 | 2.794881 |
| 2000 | 28.182 | 0.004 | 19.868 | 14 | 10243.95 | 35852.98 | 0.383659 | 25609.03 | 2.905297 |
| 2000 | 28.182 | 0.004 | 19.868 | 16 | 10988.13 | 37382.82 | 0.3953 | 26394.69 | 2.994428 |
| 2000 | 28.182 | 0.004 | 19.868 | 18 | 11665.85 | 38711.63 | 0.405136 | 27045.78 | 3.068293 |
| 2000 | 28.182 | 0.004 | 19.868 | 20 | 12290.58 | 39884.12 | 0.413593 | 27593.53 | 3.130435 |
| 2000 | 28.182 | 0.004 | 19.868 | 22 | 12871.17 | 40931.75 | 0.42097 | 28060.58 | 3.18342 |
| 2000 | 28.182 | 0.004 | 19.868 | 24 | 13414.33 | 41877.48 | 0.427484 | 28463.15 | 3.229092 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.005 | 19.868 | 2 | 2007.816 | 10547.27 | 0.1331 | 8539.457 | 0.958994 |
| 2000 | 28.182 | 0.005 | 19.868 | 4 | 4440.66 | 20309.17 | 0.237784 | 15868.51 | 1.782058 |
| 2000 | 28.182 | 0.005 | 19.868 | 6 | 6093.309 | 25675.68 | 0.288741 | 19582.37 | 2.199129 |
| 2000 | 28.182 | 0.005 | 19.868 | 8 | 7381.163 | 29335.43 | 0.321014 | 21954.27 | 2.465497 |
| 2000 | 28.182 | 0.005 | 19.868 | 10 | 8451.11 | 32091.91 | 0.344041 | 23640.8 | 2.654898 |
| 2000 | 28.182 | 0.005 | 19.868 | 12 | 9374.004 | 34291.88 | 0.361645 | 24917.88 | 2.798315 |
| 2000 | 28.182 | 0.005 | 19.868 | 14 | 10190 | 36115.9 | 0.375724 | 25925.89 | 2.911517 |
| 2000 | 28.182 | 0.005 | 19.868 | 16 | 10924.28 | 37669.62 | 0.387348 | 26745.34 | 3.003542 |
| 2000 | 28.182 | 0.005 | 19.868 | 18 | 11596.09 | 39020.09 | 0.397156 | 27424 | 3.079757 |
| 2000 | 28.182 | 0.005 | 19.868 | 20 | 12213.39 | 40212.4 | 0.405614 | 27999.01 | 3.14433 |
| 2000 | 28.182 | 0.005 | 19.868 | 22 | 12786.76 | 41278.31 | 0.413004 | 28491.55 | 3.199644 |
| 2000 | 28.182 | 0.005 | 19.868 | 24 | 13322.88 | 42240.99 | 0.419538 | 28918.11 | 3.247547 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.006 | 19.868 | 2 | 2005.691 | 10565.93 | 0.129254 | 8560.235 | 0.951708 |
| 2000 | 28.182 | 0.006 | 19.868 | 4 | 4430.426 | 20382.53 | 0.231719 | 15952.11 | 1.77352 |
| 2000 | 28.182 | 0.006 | 19.868 | 6 | 6074.241 | 25794.78 | 0.281881 | 19720.54 | 2.192486 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 2000 | 28.182 | 0.006 | 19.868 | 8 | 7353.416 | 29492.38 | 0.31376 | 22138.97 | 2.461362 |
| 2000 | 28.182 | 0.006 | 19.868 | 10 | 8414.993 | 32281.04 | 0.336566 | 23866.04 | 2.653375 |
| 2000 | 28.182 | 0.006 | 19.868 | 12 | 9329.845 | 34508.99 | 0.354037 | 25179.14 | 2.799362 |
| 2000 | 28.182 | 0.006 | 19.868 | 14 | 10138.11 | 36357.78 | 0.368035 | 26219.67 | 2.915045 |
| 2000 | 28.182 | 0.006 | 19.868 | 16 | 10864.94 | 37933.75 | 0.379611 | 27068.8 | 3.009451 |
| 2000 | 28.182 | 0.006 | 19.868 | 18 | 11529.19 | 39304.41 | 0.389397 | 27775.22 | 3.087989 |
| 2000 | 28.182 | 0.006 | 19.868 | 20 | 12139.45 | 40515.23 | 0.397845 | 28375.78 | 3.154758 |
| 2000 | 28.182 | 0.006 | 19.868 | 22 | 12705.98 | 41598.23 | 0.405236 | 28892.25 | 3.212177 |
| 2000 | 28.182 | 0.006 | 19.868 | 24 | 13235.45 | 42576.79 | 0.411779 | 29341.34 | 3.262106 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.007 | 19.868 | 2 | 2003.617 | 10583.03 | 0.125619 | 8579.414 | 0.944391 |
| 2000 | 28.182 | 0.007 | 19.868 | 4 | 4420.478 | 20449.66 | 0.225935 | 16029.19 | 1.764435 |
| 2000 | 28.182 | 0.007 | 19.868 | 6 | 6055.761 | 25904.02 | 0.275305 | 19848.26 | 2.184825 |
| 2000 | 28.182 | 0.007 | 19.868 | 8 | 7326.583 | 29636.6 | 0.306784 | 22310.02 | 2.455807 |
| 2000 | 28.182 | 0.007 | 19.868 | 10 | 8380.125 | 32455.07 | 0.329358 | 24074.95 | 2.650083 |
| 2000 | 28.182 | 0.007 | 19.868 | 12 | 9287.273 | 34709.02 | 0.346685 | 25421.74 | 2.798334 |
| 2000 | 28.182 | 0.007 | 19.868 | 14 | 10088.15 | 36580.86 | 0.360591 | 26492.71 | 2.916222 |
| 2000 | 28.182 | 0.007 | 19.868 | 16 | 10807.87 | 38177.57 | 0.372109 | 27369.7 | 3.012758 |
| 2000 | 28.182 | 0.007 | 19.868 | 18 | 11463.33 | 39567.09 | 0.381874 | 28103.76 | 3.093561 |
| 2000 | 28.182 | 0.007 | 19.868 | 20 | 12068.52 | 40795.21 | 0.390289 | 28726.68 | 3.162129 |
| 2000 | 28.182 | 0.007 | 19.868 | 22 | 12628.56 | 41894.19 | 0.397671 | 29265.63 | 3.221455 |
| 2000 | 28.182 | 0.007 | 19.868 | 24 | 13151.73 | 42887.61 | 0.404214 | 29735.88 | 3.273218 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.008 | 19.868 | 2 | 2001.591 | 10598.76 | 0.122179 | 8597.167 | 0.937062 |
| 2000 | 28.182 | 0.008 | 19.868 | 4 | 4410.805 | 20511.3 | 0.220414 | 16100.5 | 1.754899 |
| 2000 | 28.182 | 0.008 | 19.868 | 6 | 6037.84 | 26004.52 | 0.269002 | 19966.68 | 2.1763 |
| 2000 | 28.182 | 0.008 | 19.868 | 8 | 7300.614 | 29769.5 | 0.300076 | 22468.89 | 2.449032 |
| 2000 | 28.182 | 0.008 | 19.868 | 10 | 8346.437 | 32615.66 | 0.322409 | 24269.22 | 2.645262 |
| 2000 | 28.182 | 0.008 | 19.868 | 12 | 9246.198 | 34893.78 | 0.339584 | 25647.58 | 2.795499 |
| 2000 | 28.182 | 0.008 | 19.868 | 14 | 10040 | 36787.11 | 0.35339 | 26747.12 | 2.915344 |
| 2000 | 28.182 | 0.008 | 19.868 | 16 | 10752.93 | 38403.18 | 0.364839 | 27650.25 | 3.013782 |
| 2000 | 28.182 | 0.008 | 19.868 | 18 | 11401.85 | 39810.31 | 0.37456 | 28408.47 | 3.096426 |
| 2000 | 28.182 | 0.008 | 19.868 | 20 | 11998.66 | 41054.61 | 0.382962 | 29055.95 | 3.166999 |
| 2000 | 28.182 | 0.008 | 19.868 | 22 | 12554.28 | 42168.56 | 0.390314 | 29614.28 | 3.227855 |
| 2000 | 28.182 | 0.008 | 19.868 | 24 | 13071.46 | 43175.92 | 0.396848 | 30104.45 | 3.281282 |
| | | | | | | | | | |
| 1000 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 5204.152 | 0.148972 | 3184.889 | 0.376705 |
| 1000 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 9902.444 | 0.25446 | 5405.785 | 0.63939 |
| 1000 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 12436.15 | 0.300079 | 6237.466 | 0.73776 |
| 1000 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 14144.13 | 0.325899 | 6608.48 | 0.781643 |
| 1000 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 15419.92 | 0.342217 | 6766.516 | 0.800335 |
| 1000 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 16431.59 | 0.353008 | 6806.951 | 0.805118 |
| 1000 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 17265.97 | 0.36033 | 6779.48 | 0.801869 |
| 1000 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 17973.57 | 0.365226 | 6708.155 | 0.793433 |
| 1000 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 18586.25 | 0.368349 | 6607.844 | 0.781568 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 19125.36 | 0.37012 | 6487.825 | 0.767372 |
| 1000 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 19605.89 | 0.370822 | 6354.184 | 0.751565 |
| 1000 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 20038.71 | 0.370655 | 6211.041 | 0.734635 |
| 1000 | 29.182 | 0 | 20.868 | 2 | 2011.967 | 5213.126 | 0.144663 | 3201.158 | 0.365654 |
| 1000 | 29.182 | 0 | 20.868 | 4 | 4463.175 | 9936.038 | 0.248383 | 5472.863 | 0.625141 |
| 1000 | 29.182 | 0 | 20.868 | 6 | 6138.042 | 12490.15 | 0.293872 | 6352.11 | 0.725574 |
| 1000 | 29.182 | 0 | 20.868 | 8 | 7449.14 | 14214.91 | 0.320003 | 6765.774 | 0.772825 |
| 1000 | 29.182 | 0 | 20.868 | 10 | 8542.5 | 15504.9 | 0.336822 | 6962.404 | 0.795285 |
| 1000 | 29.182 | 0 | 20.868 | 12 | 9488.641 | 16528.89 | 0.348288 | 7040.249 | 0.804177 |
| 1000 | 29.182 | 0 | 20.868 | 14 | 10330.12 | 17374.14 | 0.356245 | 7044.025 | 0.804608 |
| 1000 | 29.182 | 0 | 20.868 | 16 | 11088.02 | 18091.48 | 0.361885 | 7003.468 | 0.799976 |
| 1000 | 29.182 | 0 | 20.868 | 18 | 11780.89 | 18713 | 0.3658 | 6932.111 | 0.791825 |
| 1000 | 29.182 | 0 | 20.868 | 20 | 12420.7 | 19260.19 | 0.368407 | 6839.497 | 0.781246 |
| 1000 | 29.182 | 0 | 20.868 | 22 | 13016.25 | 19748.17 | 0.369988 | 6731.916 | 0.768958 |
| 1000 | 29.182 | 0 | 20.868 | 24 | 13574.25 | 20187.9 | 0.37074 | 6613.649 | 0.755448 |
| 1000 | 30.182 | 0 | 21.868 | 2 | 2005.183 | 5221.527 | 0.140594 | 3216.344 | 0.355217 |
| 1000 | 30.182 | 0 | 21.868 | 4 | 4432.198 | 9967.54 | 0.242566 | 5535.342 | 0.611329 |
| 1000 | 30.182 | 0 | 21.868 | 6 | 6082.096 | 12540.86 | 0.287854 | 6458.761 | 0.713313 |
| 1000 | 30.182 | 0 | 21.868 | 8 | 7369.484 | 14281.44 | 0.3142 | 6911.957 | 0.763364 |
| 1000 | 30.182 | 0 | 21.868 | 10 | 8440.536 | 15584.84 | 0.331412 | 7144.304 | 0.789025 |
| 1000 | 30.182 | 0 | 21.868 | 12 | 9365.64 | 16620.45 | 0.343368 | 7254.813 | 0.80123 |
| 1000 | 30.182 | 0 | 21.868 | 14 | 10186.74 | 17475.99 | 0.351894 | 7289.255 | 0.805033 |
| 1000 | 30.182 | 0 | 21.868 | 16 | 10925.52 | 18202.55 | 0.358137 | 7277.031 | 0.803683 |
| 1000 | 30.182 | 0 | 21.868 | 18 | 11600.12 | 18832.43 | 0.362694 | 7232.306 | 0.798744 |
| 1000 | 30.182 | 0 | 21.868 | 20 | 12222.4 | 19387.28 | 0.365975 | 7164.881 | 0.791297 |
| 1000 | 30.182 | 0 | 21.868 | 22 | 12801.08 | 19882.31 | 0.368259 | 7081.224 | 0.782058 |
| 1000 | 30.182 | 0 | 21.868 | 24 | 13342.82 | 20328.6 | 0.369744 | 6985.778 | 0.771517 |
| 1000 | 31.182 | 0 | 22.868 | 2 | 1998.862 | 5229.404 | 0.136746 | 3230.543 | 0.345343 |
| 1000 | 31.182 | 0 | 22.868 | 4 | 4403.462 | 9997.151 | 0.236994 | 5593.689 | 0.597961 |
| 1000 | 31.182 | 0 | 22.868 | 6 | 6030.324 | 12588.57 | 0.282026 | 6558.243 | 0.701071 |
| 1000 | 31.182 | 0 | 22.868 | 8 | 7295.908 | 14344.09 | 0.308511 | 7048.179 | 0.753445 |
| 1000 | 31.182 | 0 | 22.868 | 10 | 8346.483 | 15660.16 | 0.326029 | 7313.679 | 0.781827 |
| 1000 | 31.182 | 0 | 22.868 | 12 | 9252.318 | 16706.78 | 0.338378 | 7454.462 | 0.796877 |
| 1000 | 31.182 | 0 | 22.868 | 14 | 10053.12 | 17572.05 | 0.347416 | 7518.933 | 0.803769 |
| 1000 | 31.182 | 0 | 22.868 | 16 | 10776.15 | 18307.35 | 0.354104 | 7531.2 | 0.80508 |
| 1000 | 31.182 | 0 | 22.868 | 18 | 11434.08 | 18945.15 | 0.359184 | 7511.071 | 0.802928 |
| 1000 | 31.182 | 0 | 22.868 | 20 | 12040.39 | 19507.26 | 0.363014 | 7466.872 | 0.798203 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 31.182 | 0 | 22.868 | 22 | 12603.72 | 20008.99 | 0.365869 | 7405.264 | 0.791617 |
| 1000 | 31.182 | 0 | 22.868 | 24 | 13130.66 | 20461.5 | 0.367946 | 7330.844 | 0.783662 |
| | | | | | | | | | |
| 1000 | 32.182 | 0 | 23.868 | 2 | 1992.953 | 5236.809 | 0.133101 | 3243.856 | 0.335991 |
| 1000 | 32.182 | 0 | 23.868 | 4 | 4376.725 | 10025.02 | 0.231656 | 5648.3 | 0.585037 |
| 1000 | 32.182 | 0 | 23.868 | 6 | 5982.28 | 12633.54 | 0.276386 | 6651.261 | 0.688921 |
| 1000 | 32.182 | 0 | 23.868 | 8 | 7227.743 | 14403.18 | 0.302946 | 7175.44 | 0.743215 |
| 1000 | 32.182 | 0 | 23.868 | 10 | 8259.465 | 15731.25 | 0.320698 | 7471.781 | 0.773909 |
| 1000 | 32.182 | 0 | 23.868 | 12 | 9147.579 | 16788.3 | 0.333365 | 7640.726 | 0.791408 |
| 1000 | 32.182 | 0 | 23.868 | 14 | 9931.649 | 17662.81 | 0.342771 | 7731.158 | 0.800775 |
| 1000 | 32.182 | 0 | 23.868 | 16 | 10636.4 | 18406.39 | 0.34993 | 7769.985 | 0.804796 |
| 1000 | 32.182 | 0 | 23.868 | 18 | 11281.06 | 19051.72 | 0.355385 | 7770.654 | 0.804865 |
| 1000 | 32.182 | 0 | 23.868 | 20 | 11872.76 | 19620.72 | 0.359666 | 7747.959 | 0.802515 |
| 1000 | 32.182 | 0 | 23.868 | 22 | 12422.07 | 20128.82 | 0.36299 | 7706.747 | 0.798246 |
| 1000 | 32.182 | 0 | 23.868 | 24 | 12935.5 | 20587.24 | 0.36555 | 7651.742 | 0.792549 |
| | | | | | | | | | |
| 1200 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 6245.21 | 0.151684 | 4225.947 | 0.49984 |
| 1200 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 11883.02 | 0.261746 | 7386.364 | 0.87365 |
| 1200 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 14923.43 | 0.311284 | 8724.745 | 1.031952 |
| 1200 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 16972.98 | 0.340703 | 9437.333 | 1.116236 |
| 1200 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 18503.92 | 0.360445 | 9850.521 | 1.165108 |
| 1200 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 19717.92 | 0.374583 | 10093.29 | 1.193822 |
| 1200 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 20719.18 | 0.385192 | 10232.68 | 1.210309 |
| 1200 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 21568.29 | 0.393358 | 10302.88 | 1.218612 |
| 1200 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 22303.51 | 0.399755 | 10325.1 | 1.22124 |
| 1200 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 22950.45 | 0.404821 | 10312.91 | 1.219798 |
| 1200 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 23527.07 | 0.408852 | 10275.37 | 1.215358 |
| 1200 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 24046.46 | 0.412059 | 10218.79 | 1.208666 |
| | | | | | | | | | |
| 1400 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 7286.855 | 0.153389 | 5267.592 | 0.623044 |
| 1400 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 13863.86 | 0.26615 | 9367.203 | 1.107942 |
| 1400 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 17410.86 | 0.317891 | 11212.18 | 1.326163 |
| 1400 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 19801.95 | 0.349252 | 12266.3 | 1.450843 |
| 1400 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 21588 | 0.370778 | 12934.6 | 1.529889 |
| 1400 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 23004.32 | 0.386605 | 13379.68 | 1.582533 |
| 1400 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 24172.43 | 0.398824 | 13685.94 | 1.618756 |
| 1400 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 25163.05 | 0.408548 | 13897.64 | 1.643796 |
| 1400 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 26020.8 | 0.416465 | 14042.39 | 1.660917 |
| 1400 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 26775.55 | 0.423021 | 14138.01 | 1.672227 |
| 1400 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 27448.28 | 0.428523 | 14196.58 | 1.679154 |
| 1400 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 28054.23 | 0.433185 | 14226.56 | 1.6827 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 8329.7 | 0.154579 | 6310.438 | 0.746391 |
| 1600 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 15845.31 | 0.269109 | 11348.65 | 1.342305 |
| 1600 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 19898.7 | 0.322255 | 13700.01 | 1.620421 |
| 1600 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 22631.2 | 0.354824 | 15095.55 | 1.785483 |
| 1600 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 24672.31 | 0.377436 | 16018.91 | 1.894698 |
| 1600 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 26290.89 | 0.394272 | 16666.25 | 1.971265 |
| 1600 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 27625.83 | 0.407436 | 17139.34 | 2.027221 |
| 1600 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 28757.95 | 0.418059 | 17492.53 | 2.068996 |
| 1600 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 29738.2 | 0.426839 | 17759.79 | 2.100607 |
| 1600 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 30600.76 | 0.434232 | 17963.22 | 2.124668 |
| 1600 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 31369.57 | 0.440546 | 18117.87 | 2.14296 |
| 1600 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 32062.07 | 0.446001 | 18234.4 | 2.156743 |
| | | | | | | | | | |
| 1800 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 9374.589 | 0.155483 | 7355.326 | 0.869979 |
| 1800 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 17827.88 | 0.271248 | 13331.22 | 1.576801 |
| 1800 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 22387.3 | 0.325362 | 16188.62 | 1.91477 |
| 1800 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 25461.03 | 0.35875 | 17925.38 | 2.120193 |
| 1800 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 27757.08 | 0.382089 | 19103.68 | 2.259561 |
| 1800 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 29577.84 | 0.399592 | 19953.21 | 2.360041 |
| 1800 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 31079.56 | 0.413373 | 20593.07 | 2.435723 |
| 1800 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 32353.11 | 0.424577 | 21087.7 | 2.494227 |
| 1800 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 33455.84 | 0.43391 | 21477.43 | 2.540325 |
| 1800 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 34426.17 | 0.441832 | 21788.63 | 2.577134 |
| 1800 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 35291.05 | 0.448657 | 22039.35 | 2.606788 |
| 1800 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 36070.09 | 0.454607 | 22242.41 | 2.630806 |
| | | | | | | | | | |
| 2000 | 28.182 | 0 | 19.868 | 2 | 2019.263 | 10408.22 | 0.155977 | 8388.955 | 0.992236 |
| 2000 | 28.182 | 0 | 19.868 | 4 | 4496.658 | 19812.21 | 0.272882 | 15315.55 | 1.811505 |
| 2000 | 28.182 | 0 | 19.868 | 6 | 6198.685 | 24877.15 | 0.327697 | 18678.47 | 2.209267 |
| 2000 | 28.182 | 0 | 19.868 | 8 | 7535.651 | 28291.83 | 0.361674 | 20756.18 | 2.455016 |
| 2000 | 28.182 | 0 | 19.868 | 10 | 8653.402 | 30842.64 | 0.385531 | 22189.24 | 2.624517 |
| 2000 | 28.182 | 0 | 19.868 | 12 | 9624.636 | 32865.47 | 0.403505 | 23240.83 | 2.748898 |
| 2000 | 28.182 | 0 | 19.868 | 14 | 10486.49 | 34533.86 | 0.417719 | 24047.37 | 2.844294 |
| 2000 | 28.182 | 0 | 19.868 | 16 | 11265.42 | 35948.78 | 0.429328 | 24683.37 | 2.919519 |
| 2000 | 28.182 | 0 | 19.868 | 18 | 11978.41 | 37173.94 | 0.439043 | 25195.53 | 2.980097 |
| 2000 | 28.182 | 0 | 19.868 | 20 | 12637.54 | 38252 | 0.447329 | 25614.46 | 3.029647 |
| 2000 | 28.182 | 0 | 19.868 | 22 | 13251.7 | 39212.91 | 0.454502 | 25961.2 | 3.07066 |
| 2000 | 28.182 | 0 | 19.868 | 24 | 13827.67 | 40078.44 | 0.460787 | 26250.77 | 3.104909 |

## 3.2.4 For one inter cooler used in compression process and one reheat in expansion

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 5235.931 | 0.136064 | 3324.181 | 0.377122 |
| 1000 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 10018.83 | 0.232165 | 5998.845 | 0.680558 |
| 1000 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 12620.8 | 0.274234 | 7269.217 | 0.824679 |
| 1000 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 14383.94 | 0.298762 | 8040.706 | 0.912203 |
| 1000 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 15705.8 | 0.315028 | 8565.492 | 0.971739 |
| 1000 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 16756.99 | 0.32664 | 8946.78 | 1.014996 |
| 1000 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 17625.97 | 0.335335 | 9235.961 | 1.047803 |
| 1000 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 18364.34 | 0.342063 | 9461.949 | 1.073441 |
| 1000 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 19004.73 | 0.347395 | 9642.438 | 1.093917 |
| 1000 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 19569.04 | 0.351696 | 9788.949 | 1.110538 |
| 1000 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 20072.68 | 0.355213 | 9909.348 | 1.124197 |
| 1000 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 20526.84 | 0.358118 | 10009.21 | 1.135526 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 5242.772 | 0.13374 | 3332.002 | 0.374189 |
| 1000 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 10044.19 | 0.228933 | 6028.563 | 0.677017 |
| 1000 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 12661.32 | 0.270898 | 7317.426 | 0.821758 |
| 1000 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 14436.82 | 0.2955 | 8104.353 | 0.910131 |
| 1000 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 15769.06 | 0.311897 | 8642.369 | 0.970551 |
| 1000 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 16829.2 | 0.323661 | 9035.253 | 1.014673 |
| 1000 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 17706.05 | 0.332512 | 9334.775 | 1.048309 |
| 1000 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 18451.43 | 0.339398 | 9570.11 | 1.074738 |
| 1000 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 19098.16 | 0.344885 | 9759.141 | 1.095966 |
| 1000 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 19668.25 | 0.349338 | 9913.527 | 1.113304 |
| 1000 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 20177.2 | 0.353002 | 10041.24 | 1.127646 |
| 1000 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 20636.28 | 0.35605 | 10147.92 | 1.139627 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 5249.241 | 0.131489 | 3339.429 | 0.37127 |
| 1000 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 10068.28 | 0.225774 | 6056.896 | 0.673392 |
| 1000 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 12699.89 | 0.267618 | 7363.483 | 0.818656 |
| 1000 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 14487.22 | 0.292275 | 8165.243 | 0.907794 |
| 1000 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 15829.43 | 0.308785 | 8715.993 | 0.969025 |
| 1000 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 16898.18 | 0.320684 | 9120.05 | 1.013947 |
| 1000 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 17782.6 | 0.329678 | 9429.545 | 1.048356 |
| 1000 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 18534.75 | 0.336707 | 9673.903 | 1.075523 |
| 1000 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 19187.6 | 0.342337 | 9871.183 | 1.097457 |
| 1000 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 19763.27 | 0.346929 | 10033.18 | 1.115467 |
| 1000 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 20277.36 | 0.350729 | 10167.95 | 1.130451 |
| 1000 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 20741.2 | 0.353909 | 10281.24 | 1.143046 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 5255.367 | 0.12931 | 3346.493 | 0.36837 |
| 1000 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 10091.17 | 0.222689 | 6083.937 | 0.669698 |
| 1000 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 12736.62 | 0.264394 | 7407.525 | 0.815394 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 14535.3 | 0.289088 | 8223.546 | 0.905218 |
| 1000 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 15887.09 | 0.305696 | 8786.555 | 0.967192 |
| 1000 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 16964.12 | 0.317715 | 9201.381 | 1.012855 |
| 1000 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 17855.84 | 0.326838 | 9520.497 | 1.047982 |
| 1000 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 18614.52 | 0.333999 | 9773.565 | 1.075839 |
| 1000 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 19273.27 | 0.339758 | 9978.813 | 1.098432 |
| 1000 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 19854.34 | 0.344479 | 10148.16 | 1.117073 |
| 1000 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 20373.39 | 0.348404 | 10289.77 | 1.13266 |
| 1000 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 20841.83 | 0.351706 | 10409.44 | 1.145834 |
| | | | | | | | | | |
| 1000 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 5261.177 | 0.127198 | 3353.221 | 0.36549 |
| 1000 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 10112.95 | 0.219674 | 6109.773 | 0.665944 |
| 1000 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 12771.65 | 0.261226 | 7449.68 | 0.81199 |
| 1000 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 14581.21 | 0.285942 | 8279.416 | 0.902428 |
| 1000 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 15942.2 | 0.302632 | 8854.233 | 0.965081 |
| 1000 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 17027.2 | 0.314758 | 9279.442 | 1.011427 |
| 1000 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 17925.95 | 0.323998 | 9607.843 | 1.047222 |
| 1000 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 18690.93 | 0.331278 | 9869.321 | 1.075722 |
| 1000 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 19355.38 | 0.337158 | 10082.27 | 1.098933 |
| 1000 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 19941.66 | 0.341996 | 10258.72 | 1.118165 |
| 1000 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 20465.51 | 0.346037 | 10406.93 | 1.13432 |
| 1000 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 20938.4 | 0.349452 | 10532.79 | 1.148038 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.004 | 20.868 | 2 | 1908.646 | 5242.971 | 0.132455 | 3334.324 | 0.365822 |
| 1000 | 29.182 | 0.004 | 20.868 | 4 | 4006.727 | 10045.64 | 0.227055 | 6038.911 | 0.662554 |
| 1000 | 29.182 | 0.004 | 20.868 | 6 | 5328.643 | 12664.31 | 0.268911 | 7335.668 | 0.804826 |
| 1000 | 29.182 | 0.004 | 20.868 | 8 | 6311.55 | 14441.35 | 0.293525 | 8129.798 | 0.891953 |
| 1000 | 29.182 | 0.004 | 20.868 | 10 | 7100.698 | 15775.07 | 0.309979 | 8674.373 | 0.951701 |
| 1000 | 29.182 | 0.004 | 20.868 | 12 | 7763.342 | 16836.61 | 0.321819 | 9073.271 | 0.995466 |
| 1000 | 29.182 | 0.004 | 20.868 | 14 | 8336.434 | 17714.78 | 0.330756 | 9378.35 | 1.028937 |
| 1000 | 29.182 | 0.004 | 20.868 | 16 | 8842.566 | 18461.42 | 0.33773 | 9618.858 | 1.055324 |
| 1000 | 29.182 | 0.004 | 20.868 | 18 | 9296.607 | 19109.34 | 0.343308 | 9812.733 | 1.076595 |
| 1000 | 29.182 | 0.004 | 20.868 | 20 | 9708.888 | 19680.57 | 0.34785 | 9971.678 | 1.094034 |
| 1000 | 29.182 | 0.004 | 20.868 | 22 | 10086.89 | 20190.59 | 0.351604 | 10103.7 | 1.108518 |
| 1000 | 29.182 | 0.004 | 20.868 | 24 | 10436.23 | 20650.7 | 0.354739 | 10214.48 | 1.120672 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.005 | 20.868 | 2 | 1907.732 | 5249.423 | 0.13025 | 3341.691 | 0.363046 |
| 1000 | 29.182 | 0.005 | 20.868 | 4 | 4002.678 | 10069.61 | 0.223952 | 6066.934 | 0.65912 |
| 1000 | 29.182 | 0.005 | 20.868 | 6 | 5321.506 | 12702.66 | 0.26568 | 7381.15 | 0.801898 |
| 1000 | 29.182 | 0.005 | 20.868 | 8 | 6301.561 | 14491.43 | 0.290341 | 8189.864 | 0.889758 |
| 1000 | 29.182 | 0.005 | 20.868 | 10 | 7088.08 | 15835.02 | 0.3069 | 8746.94 | 0.950279 |
| 1000 | 29.182 | 0.005 | 20.868 | 12 | 7748.284 | 16905.08 | 0.318867 | 9156.795 | 0.994806 |
| 1000 | 29.182 | 0.005 | 20.868 | 14 | 8319.097 | 17790.74 | 0.327939 | 9471.648 | 1.029012 |
| 1000 | 29.182 | 0.005 | 20.868 | 16 | 8823.085 | 18544.07 | 0.33505 | 9720.99 | 1.056101 |
| 1000 | 29.182 | 0.005 | 20.868 | 18 | 9275.098 | 19198.04 | 0.340762 | 9922.938 | 1.078041 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 29.182 | 0.005 | 20.868 | 20 | 9685.454 | 19774.78 | 0.345437 | 10089.32 | 1.096117 |
| 1000 | 29.182 | 0.005 | 20.868 | 22 | 10061.62 | 20289.87 | 0.349319 | 10228.25 | 1.111211 |
| 1000 | 29.182 | 0.005 | 20.868 | 24 | 10409.2 | 20754.68 | 0.35258 | 10345.48 | 1.123947 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.006 | 20.868 | 2 | 1906.837 | 5255.535 | 0.128113 | 3348.698 | 0.360284 |
| 1000 | 29.182 | 0.006 | 20.868 | 4 | 3998.723 | 10092.41 | 0.220918 | 6093.683 | 0.655615 |
| 1000 | 29.182 | 0.006 | 20.868 | 6 | 5314.541 | 12739.19 | 0.262504 | 7424.651 | 0.798813 |
| 1000 | 29.182 | 0.006 | 20.868 | 8 | 6291.823 | 14539.21 | 0.287196 | 8247.389 | 0.887331 |
| 1000 | 29.182 | 0.006 | 20.868 | 10 | 7075.788 | 15892.29 | 0.303845 | 8816.506 | 0.948562 |
| 1000 | 29.182 | 0.006 | 20.868 | 12 | 7733.624 | 16970.55 | 0.315925 | 9236.927 | 0.993795 |
| 1000 | 29.182 | 0.006 | 20.868 | 14 | 8302.226 | 17863.44 | 0.325118 | 9561.212 | 1.028685 |
| 1000 | 29.182 | 0.006 | 20.868 | 16 | 8804.136 | 18623.22 | 0.332353 | 9819.088 | 1.056429 |
| 1000 | 29.182 | 0.006 | 20.868 | 18 | 9254.186 | 19283.02 | 0.338189 | 10028.84 | 1.078996 |
| 1000 | 29.182 | 0.006 | 20.868 | 20 | 9662.678 | 19865.09 | 0.342986 | 10202.42 | 1.097671 |
| 1000 | 29.182 | 0.006 | 20.868 | 22 | 10037.07 | 20385.1 | 0.346987 | 10348.03 | 1.113338 |
| 1000 | 29.182 | 0.006 | 20.868 | 24 | 10382.95 | 20854.45 | 0.350364 | 10471.5 | 1.126622 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.007 | 20.868 | 2 | 1905.96 | 5261.331 | 0.126042 | 3355.371 | 0.35754 |
| 1000 | 29.182 | 0.007 | 20.868 | 4 | 3992.725 | 10114.1 | 0.218021 | 6121.375 | 0.652279 |
| 1000 | 29.182 | 0.007 | 20.868 | 6 | 5307.743 | 12774.04 | 0.259383 | 7466.294 | 0.79559 |
| 1000 | 29.182 | 0.007 | 20.868 | 8 | 6282.327 | 14584.85 | 0.284091 | 8302.525 | 0.884697 |
| 1000 | 29.182 | 0.007 | 20.868 | 10 | 7063.808 | 15947.05 | 0.300815 | 8883.244 | 0.946577 |
| 1000 | 29.182 | 0.007 | 20.868 | 12 | 7719.345 | 17033.2 | 0.312995 | 9313.858 | 0.992462 |
| 1000 | 29.182 | 0.007 | 20.868 | 14 | 8285.801 | 17933.05 | 0.322298 | 9647.249 | 1.027987 |
| 1000 | 29.182 | 0.007 | 20.868 | 16 | 8785.696 | 18699.06 | 0.329647 | 9913.368 | 1.056344 |
| 1000 | 29.182 | 0.007 | 20.868 | 18 | 9233.844 | 19364.5 | 0.335596 | 10130.66 | 1.079498 |
| 1000 | 29.182 | 0.007 | 20.868 | 20 | 9640.53 | 19951.73 | 0.340505 | 10311.2 | 1.098736 |
| 1000 | 29.182 | 0.007 | 20.868 | 22 | 10013.2 | 20476.48 | 0.344616 | 10463.27 | 1.11494 |
| 1000 | 29.182 | 0.007 | 20.868 | 24 | 10357.44 | 20950.23 | 0.3481 | 10592.79 | 1.128742 |
| | | | | | | | | | |
| 1000 | 29.182 | 0.008 | 20.868 | 2 | 1905.101 | 5266.835 | 0.124033 | 3361.734 | 0.354815 |
| 1000 | 29.182 | 0.008 | 20.868 | 4 | 3989.07 | 10134.77 | 0.21512 | 6145.698 | 0.64865 |
| 1000 | 29.182 | 0.008 | 20.868 | 6 | 5301.106 | 12807.3 | 0.256318 | 7506.192 | 0.792244 |
| 1000 | 29.182 | 0.008 | 20.868 | 8 | 6273.062 | 14628.47 | 0.281027 | 8355.413 | 0.881875 |
| 1000 | 29.182 | 0.008 | 20.868 | 10 | 7052.129 | 15999.44 | 0.297815 | 8947.315 | 0.944348 |
| 1000 | 29.182 | 0.008 | 20.868 | 12 | 7705.431 | 17093.2 | 0.310083 | 9387.765 | 0.990835 |
| 1000 | 29.182 | 0.008 | 20.868 | 14 | 8269.804 | 17999.75 | 0.319485 | 9729.949 | 1.026951 |
| 1000 | 29.182 | 0.008 | 20.868 | 16 | 8767.744 | 18771.78 | 0.326936 | 10004.03 | 1.055879 |
| 1000 | 29.182 | 0.008 | 20.868 | 18 | 9214.046 | 19442.66 | 0.332989 | 10228.61 | 1.079583 |
| 1000 | 29.182 | 0.008 | 20.868 | 20 | 9618.983 | 20034.87 | 0.338001 | 10415.88 | 1.099348 |
| 1000 | 29.182 | 0.008 | 20.868 | 22 | 9989.992 | 20564.21 | 0.342213 | 10574.21 | 1.116059 |
| 1000 | 29.182 | 0.008 | 20.868 | 24 | 10332.64 | 21042.22 | 0.345797 | 10709.58 | 1.130347 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.004 | 21.868 | 2 | 1905.745 | 5249.606 | 0.129031 | 3343.861 | 0.355178 |
| 1000 | 30.182 | 0.004 | 21.868 | 4 | 3994.36 | 10070.94 | 0.222151 | 6076.578 | 0.645442 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 30.182 | 0.004 | 21.868 | 6 | 5307.263 | 12705.4 | 0.263758 | 7398.138 | 0.785815 |
| 1000 | 30.182 | 0.004 | 21.868 | 8 | 6282.045 | 14495.59 | 0.288416 | 8213.546 | 0.872426 |
| 1000 | 30.182 | 0.004 | 21.868 | 10 | 7063.832 | 15840.55 | 0.305017 | 8776.717 | 0.932245 |
| 1000 | 30.182 | 0.004 | 21.868 | 12 | 7719.742 | 16911.9 | 0.317046 | 9192.16 | 0.976373 |
| 1000 | 30.182 | 0.004 | 21.868 | 14 | 8286.614 | 17798.79 | 0.326189 | 9512.177 | 1.010364 |
| 1000 | 30.182 | 0.004 | 21.868 | 16 | 8786.955 | 18553.28 | 0.333375 | 9766.324 | 1.037359 |
| 1000 | 30.182 | 0.004 | 21.868 | 18 | 9235.568 | 19208.34 | 0.339164 | 9972.771 | 1.059288 |
| 1000 | 30.182 | 0.004 | 21.868 | 20 | 9642.735 | 19786.13 | 0.343916 | 10143.39 | 1.077411 |
| 1000 | 30.182 | 0.004 | 21.868 | 22 | 10015.9 | 20302.22 | 0.347875 | 10286.32 | 1.092593 |
| 1000 | 30.182 | 0.004 | 21.868 | 24 | 10360.63 | 20767.98 | 0.351212 | 10407.36 | 1.105449 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.005 | 21.868 | 2 | 1904.89 | 5255.703 | 0.126936 | 3350.813 | 0.352546 |
| 1000 | 30.182 | 0.005 | 21.868 | 4 | 3988.38 | 10093.63 | 0.21924 | 6105.252 | 0.642347 |
| 1000 | 30.182 | 0.005 | 21.868 | 6 | 5300.619 | 12741.74 | 0.26063 | 7441.122 | 0.782897 |
| 1000 | 30.182 | 0.005 | 21.868 | 8 | 6272.757 | 14543.09 | 0.285313 | 8270.331 | 0.87014 |
| 1000 | 30.182 | 0.005 | 21.868 | 10 | 7052.11 | 15897.44 | 0.301996 | 8845.334 | 0.930637 |
| 1000 | 30.182 | 0.005 | 21.868 | 12 | 7705.764 | 16976.91 | 0.314131 | 9271.15 | 0.975438 |
| 1000 | 30.182 | 0.005 | 21.868 | 14 | 8270.53 | 17870.95 | 0.323388 | 9600.419 | 1.010081 |
| 1000 | 30.182 | 0.005 | 21.868 | 16 | 8768.891 | 18631.82 | 0.330692 | 9862.931 | 1.037701 |
| 1000 | 30.182 | 0.005 | 21.868 | 18 | 9215.634 | 19292.65 | 0.336599 | 10077.02 | 1.060226 |
| 1000 | 30.182 | 0.005 | 21.868 | 20 | 9621.025 | 19875.71 | 0.341466 | 10254.69 | 1.078918 |
| 1000 | 30.182 | 0.005 | 21.868 | 22 | 9992.497 | 20396.65 | 0.345539 | 10404.16 | 1.094644 |
| 1000 | 30.182 | 0.005 | 21.868 | 24 | 10335.61 | 20866.91 | 0.348986 | 10531.3 | 1.108021 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.006 | 21.868 | 2 | 1904.052 | 5261.486 | 0.124904 | 3357.434 | 0.34993 |
| 1000 | 30.182 | 0.006 | 21.868 | 4 | 3984.816 | 10115.24 | 0.21632 | 6130.422 | 0.638945 |
| 1000 | 30.182 | 0.006 | 21.868 | 6 | 5294.129 | 12776.41 | 0.257556 | 7482.277 | 0.779842 |
| 1000 | 30.182 | 0.006 | 21.868 | 8 | 6263.694 | 14588.46 | 0.282248 | 8324.768 | 0.867651 |
| 1000 | 30.182 | 0.006 | 21.868 | 10 | 7040.679 | 15951.86 | 0.299001 | 8911.176 | 0.92877 |
| 1000 | 30.182 | 0.006 | 21.868 | 12 | 7692.14 | 17039.14 | 0.311229 | 9347.002 | 0.974194 |
| 1000 | 30.182 | 0.006 | 21.868 | 14 | 8254.861 | 17940.07 | 0.32059 | 9685.207 | 1.009444 |
| 1000 | 30.182 | 0.006 | 21.868 | 16 | 8751.301 | 18707.1 | 0.328001 | 9955.803 | 1.037646 |
| 1000 | 30.182 | 0.006 | 21.868 | 18 | 9196.23 | 19373.51 | 0.334015 | 10177.28 | 1.06073 |
| 1000 | 30.182 | 0.006 | 21.868 | 20 | 9599.901 | 19961.67 | 0.33899 | 10361.76 | 1.079958 |
| 1000 | 30.182 | 0.006 | 21.868 | 22 | 9969.733 | 20487.3 | 0.343166 | 10517.57 | 1.096197 |
| 1000 | 30.182 | 0.006 | 21.868 | 24 | 10311.28 | 20961.9 | 0.346715 | 10650.62 | 1.110064 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.007 | 21.868 | 2 | 1903.23 | 5266.977 | 0.122933 | 3363.747 | 0.34733 |
| 1000 | 30.182 | 0.007 | 21.868 | 4 | 3981.323 | 10135.82 | 0.213467 | 6154.501 | 0.635494 |
| 1000 | 30.182 | 0.007 | 21.868 | 6 | 5287.79 | 12809.5 | 0.254535 | 7521.714 | 0.776667 |
| 1000 | 30.182 | 0.007 | 21.868 | 8 | 6254.846 | 14631.84 | 0.279224 | 8376.994 | 0.864981 |
| 1000 | 30.182 | 0.007 | 21.868 | 10 | 7029.528 | 16003.93 | 0.296035 | 8974.401 | 0.926667 |
| 1000 | 30.182 | 0.007 | 21.868 | 12 | 7678.857 | 17098.75 | 0.308345 | 9419.89 | 0.972667 |
| 1000 | 30.182 | 0.007 | 21.868 | 14 | 8239.59 | 18006.32 | 0.317799 | 9766.727 | 1.00848 |
| 1000 | 30.182 | 0.007 | 21.868 | 16 | 8734.165 | 18779.3 | 0.325307 | 10045.14 | 1.037228 |
| 1000 | 30.182 | 0.007 | 21.868 | 18 | 9177.334 | 19451.1 | 0.33142 | 10273.77 | 1.060836 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 30.182 | 0.007 | 21.868 | 20 | 9579.335 | 20044.18 | 0.336492 | 10464.85 | 1.080566 |
| 1000 | 30.182 | 0.007 | 21.868 | 22 | 9947.578 | 20574.36 | 0.340765 | 10626.78 | 1.097286 |
| 1000 | 30.182 | 0.007 | 21.868 | 24 | 10287.61 | 21053.17 | 0.344409 | 10765.56 | 1.111616 |
| | | | | | | | | | |
| 1000 | 30.182 | 0.008 | 21.868 | 2 | 1902.425 | 5272.199 | 0.121021 | 3369.775 | 0.344748 |
| 1000 | 30.182 | 0.008 | 21.868 | 4 | 3977.902 | 10155.46 | 0.210678 | 6177.56 | 0.632001 |
| 1000 | 30.182 | 0.008 | 21.868 | 6 | 5281.594 | 12841.13 | 0.251568 | 7559.537 | 0.773386 |
| 1000 | 30.182 | 0.008 | 21.868 | 8 | 6246.206 | 14673.34 | 0.276243 | 8427.138 | 0.862147 |
| 1000 | 30.182 | 0.008 | 21.868 | 10 | 7018.645 | 16053.8 | 0.293099 | 9035.154 | 0.92435 |
| 1000 | 30.182 | 0.008 | 21.868 | 12 | 7665.901 | 17155.87 | 0.305481 | 9489.974 | 0.970881 |
| 1000 | 30.182 | 0.008 | 21.868 | 14 | 8224.701 | 18069.85 | 0.315019 | 9845.154 | 1.007218 |
| 1000 | 30.182 | 0.008 | 21.868 | 16 | 8717.464 | 18848.59 | 0.322615 | 10131.12 | 1.036474 |
| 1000 | 30.182 | 0.008 | 21.868 | 18 | 9158.924 | 19525.59 | 0.328818 | 10366.67 | 1.060572 |
| 1000 | 30.182 | 0.008 | 21.868 | 20 | 9559.305 | 20123.44 | 0.33398 | 10564.13 | 1.080774 |
| 1000 | 30.182 | 0.008 | 21.868 | 22 | 9926.007 | 20658 | 0.338342 | 10732 | 1.097947 |
| 1000 | 30.182 | 0.008 | 21.868 | 24 | 10264.56 | 21140.89 | 0.342073 | 10876.33 | 1.112713 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.004 | 22.868 | 2 | 1903.027 | 5255.872 | 0.125779 | 3352.845 | 0.345135 |
| 1000 | 31.182 | 0.004 | 22.868 | 4 | 3980.653 | 10094.85 | 0.21751 | 6114.199 | 0.629383 |
| 1000 | 31.182 | 0.004 | 22.868 | 6 | 5287.292 | 12744.27 | 0.258773 | 7456.976 | 0.767605 |
| 1000 | 31.182 | 0.004 | 22.868 | 8 | 6254.503 | 14546.93 | 0.283439 | 8292.424 | 0.853604 |
| 1000 | 31.182 | 0.004 | 22.868 | 10 | 7029.439 | 15902.54 | 0.300152 | 8873.104 | 0.913378 |
| 1000 | 31.182 | 0.004 | 22.868 | 12 | 7679.083 | 16983.21 | 0.312335 | 9304.125 | 0.957747 |
| 1000 | 31.182 | 0.004 | 22.868 | 14 | 8240.172 | 17878.37 | 0.321651 | 9638.201 | 0.992136 |
| 1000 | 31.182 | 0.004 | 22.868 | 16 | 8735.131 | 18640.32 | 0.329019 | 9905.187 | 1.019619 |
| 1000 | 31.182 | 0.004 | 22.868 | 18 | 9178.703 | 19302.17 | 0.334991 | 10123.47 | 1.042088 |
| 1000 | 31.182 | 0.004 | 22.868 | 20 | 9581.119 | 19886.19 | 0.339925 | 10305.07 | 1.060782 |
| 1000 | 31.182 | 0.004 | 22.868 | 22 | 9949.786 | 20408.06 | 0.344063 | 10458.27 | 1.076552 |
| 1000 | 31.182 | 0.004 | 22.868 | 24 | 10290.24 | 20879.2 | 0.347576 | 10588.95 | 1.090004 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.005 | 22.868 | 2 | 1902.225 | 5261.641 | 0.123785 | 3359.416 | 0.342637 |
| 1000 | 31.182 | 0.005 | 22.868 | 4 | 3977.245 | 10116.37 | 0.214639 | 6139.124 | 0.626147 |
| 1000 | 31.182 | 0.005 | 22.868 | 6 | 5281.091 | 12778.76 | 0.255744 | 7497.665 | 0.764709 |
| 1000 | 31.182 | 0.005 | 22.868 | 8 | 6245.846 | 14592.04 | 0.280415 | 8346.193 | 0.851253 |
| 1000 | 31.182 | 0.005 | 22.868 | 10 | 7018.522 | 15956.61 | 0.297191 | 8938.091 | 0.911622 |
| 1000 | 31.182 | 0.005 | 22.868 | 12 | 7666.074 | 17045.02 | 0.309462 | 9378.947 | 0.956586 |
| 1000 | 31.182 | 0.005 | 22.868 | 14 | 8225.211 | 17947.01 | 0.318876 | 9721.797 | 0.991555 |
| 1000 | 31.182 | 0.005 | 22.868 | 16 | 8718.337 | 18715.05 | 0.326345 | 9996.716 | 1.019594 |
| 1000 | 31.182 | 0.005 | 22.868 | 18 | 9160.178 | 19382.42 | 0.332419 | 10222.24 | 1.042597 |
| 1000 | 31.182 | 0.005 | 22.868 | 20 | 9560.953 | 19971.48 | 0.337455 | 10410.53 | 1.061801 |
| 1000 | 31.182 | 0.005 | 22.868 | 22 | 9928.057 | 20497.99 | 0.341692 | 10569.93 | 1.078059 |
| 1000 | 31.182 | 0.005 | 22.868 | 24 | 10267.02 | 20973.43 | 0.345302 | 10706.41 | 1.091978 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.006 | 22.868 | 2 | 1901.439 | 5267.121 | 0.121851 | 3365.682 | 0.340153 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 31.182 | 0.006 | 22.868 | 4 | 3973.905 | 10136.88 | 0.211833 | 6162.971 | 0.622862 |
| 1000 | 31.182 | 0.006 | 22.868 | 6 | 5275.031 | 12811.69 | 0.252768 | 7536.662 | 0.761694 |
| 1000 | 31.182 | 0.006 | 22.868 | 8 | 6237.39 | 14635.18 | 0.277431 | 8397.788 | 0.848724 |
| 1000 | 31.182 | 0.006 | 22.868 | 10 | 7007.865 | 16008.37 | 0.294259 | 9000.507 | 0.909638 |
| 1000 | 31.182 | 0.006 | 22.868 | 12 | 7653.382 | 17104.24 | 0.306607 | 9450.861 | 0.955153 |
| 1000 | 31.182 | 0.006 | 22.868 | 14 | 8210.621 | 18012.81 | 0.316109 | 9802.191 | 0.990661 |
| 1000 | 31.182 | 0.006 | 22.868 | 16 | 8701.967 | 18786.75 | 0.323669 | 10084.78 | 1.019221 |
| 1000 | 31.182 | 0.006 | 22.868 | 18 | 9142.127 | 19459.45 | 0.329837 | 10317.32 | 1.042722 |
| 1000 | 31.182 | 0.006 | 22.868 | 20 | 9541.309 | 20053.39 | 0.334966 | 10512.08 | 1.062406 |
| 1000 | 31.182 | 0.006 | 22.868 | 22 | 9906.896 | 20584.38 | 0.339295 | 10677.49 | 1.079123 |
| 1000 | 31.182 | 0.006 | 22.868 | 24 | 10244.41 | 21063.98 | 0.342995 | 10819.57 | 1.093483 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.007 | 22.868 | 2 | 1900.667 | 5272.332 | 0.119974 | 3371.664 | 0.337686 |
| 1000 | 31.182 | 0.007 | 22.868 | 4 | 3970.631 | 10156.44 | 0.209089 | 6185.809 | 0.619535 |
| 1000 | 31.182 | 0.007 | 22.868 | 6 | 5269.105 | 12843.17 | 0.249844 | 7574.068 | 0.758575 |
| 1000 | 31.182 | 0.007 | 22.868 | 8 | 6229.128 | 14676.46 | 0.274489 | 8447.334 | 0.846036 |
| 1000 | 31.182 | 0.007 | 22.868 | 10 | 6997.46 | 16057.95 | 0.291357 | 9060.495 | 0.907447 |
| 1000 | 31.182 | 0.007 | 22.868 | 12 | 7640.995 | 17161.02 | 0.303772 | 9520.024 | 0.953471 |
| 1000 | 31.182 | 0.007 | 22.868 | 14 | 8196.388 | 18075.94 | 0.313352 | 9879.551 | 0.989479 |
| 1000 | 31.182 | 0.007 | 22.868 | 16 | 8686.003 | 18855.56 | 0.320996 | 10169.56 | 1.018525 |
| 1000 | 31.182 | 0.007 | 22.868 | 18 | 9124.53 | 19533.42 | 0.327249 | 10408.89 | 1.042495 |
| 1000 | 31.182 | 0.007 | 22.868 | 20 | 9522.165 | 20132.08 | 0.332464 | 10609.91 | 1.062628 |
| 1000 | 31.182 | 0.007 | 22.868 | 22 | 9886.278 | 20667.42 | 0.336878 | 10781.14 | 1.079777 |
| 1000 | 31.182 | 0.007 | 22.868 | 24 | 10222.38 | 21151.05 | 0.340661 | 10928.66 | 1.094552 |
| | | | | | | | | | |
| 1000 | 31.182 | 0.008 | 22.868 | 2 | 1899.911 | 5277.293 | 0.118151 | 3377.382 | 0.335237 |
| 1000 | 31.182 | 0.008 | 22.868 | 4 | 3967.421 | 10175.12 | 0.206407 | 6207.7 | 0.616173 |
| 1000 | 31.182 | 0.008 | 22.868 | 6 | 5263.308 | 12873.28 | 0.246973 | 7609.976 | 0.755363 |
| 1000 | 31.182 | 0.008 | 22.868 | 8 | 6221.053 | 14716 | 0.271588 | 8494.947 | 0.843204 |
| 1000 | 31.182 | 0.008 | 22.868 | 10 | 6987.296 | 16105.48 | 0.288488 | 9118.188 | 0.905067 |
| 1000 | 31.182 | 0.008 | 22.868 | 12 | 7628.901 | 17215.48 | 0.30096 | 9586.582 | 0.95156 |
| 1000 | 31.182 | 0.008 | 22.868 | 14 | 8182.498 | 18136.53 | 0.31061 | 9954.037 | 0.988033 |
| 1000 | 31.182 | 0.008 | 22.868 | 16 | 8670.429 | 18921.66 | 0.31833 | 10251.23 | 1.017532 |
| 1000 | 31.182 | 0.008 | 22.868 | 18 | 9107.369 | 19604.5 | 0.324661 | 10497.13 | 1.04194 |
| 1000 | 31.182 | 0.008 | 22.868 | 20 | 9503.499 | 20207.72 | 0.329954 | 10704.22 | 1.062495 |
| 1000 | 31.182 | 0.008 | 22.868 | 22 | 9866.182 | 20747.27 | 0.334446 | 10881.08 | 1.080051 |
| 1000 | 31.182 | 0.008 | 22.868 | 24 | 10200.92 | 21234.8 | 0.338306 | 11033.88 | 1.095218 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.004 | 23.868 | 2 | 1900.475 | 5261.797 | 0.122685 | 3361.322 | 0.335642 |
| 1000 | 32.182 | 0.004 | 23.868 | 4 | 3969.993 | 10117.49 | 0.212979 | 6147.501 | 0.613854 |
| 1000 | 32.182 | 0.004 | 23.868 | 6 | 5268.595 | 12781.09 | 0.253948 | 7512.494 | 0.750154 |
| 1000 | 32.182 | 0.004 | 23.868 | 8 | 6228.736 | 14595.58 | 0.278594 | 8366.848 | 0.835465 |
| 1000 | 32.182 | 0.004 | 23.868 | 10 | 6997.278 | 15961.32 | 0.295387 | 8964.046 | 0.895098 |
| 1000 | 32.182 | 0.004 | 23.868 | 12 | 7641.08 | 17050.84 | 0.307696 | 9409.759 | 0.939604 |
| 1000 | 32.182 | 0.004 | 23.868 | 14 | 8196.778 | 17953.87 | 0.317158 | 9757.096 | 0.974287 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 32.182 | 0.004 | 23.868 | 16 | 8686.723 | 18722.91 | 0.32468 | 10036.19 | 1.002156 |
| 1000 | 32.182 | 0.004 | 23.868 | 18 | 9125.599 | 19391.22 | 0.33081 | 10265.62 | 1.025066 |
| 1000 | 32.182 | 0.004 | 23.868 | 20 | 9523.594 | 19981.19 | 0.335902 | 10457.59 | 1.044235 |
| 1000 | 32.182 | 0.004 | 23.868 | 22 | 9888.077 | 20508.55 | 0.340197 | 10620.47 | 1.060499 |
| 1000 | 32.182 | 0.004 | 23.868 | 24 | 10224.56 | 20984.81 | 0.343864 | 10760.25 | 1.074456 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.005 | 23.868 | 2 | 1899.722 | 5267.265 | 0.120786 | 3367.543 | 0.333268 |
| 1000 | 32.182 | 0.005 | 23.868 | 4 | 3966.795 | 10137.92 | 0.210219 | 6171.126 | 0.610724 |
| 1000 | 32.182 | 0.005 | 23.868 | 6 | 5262.796 | 12813.87 | 0.251016 | 7551.07 | 0.74729 |
| 1000 | 32.182 | 0.005 | 23.868 | 8 | 6220.648 | 14638.49 | 0.275649 | 8417.839 | 0.83307 |
| 1000 | 32.182 | 0.005 | 23.868 | 10 | 6987.086 | 16012.77 | 0.29249 | 9025.688 | 0.893226 |
| 1000 | 32.182 | 0.005 | 23.868 | 12 | 7628.943 | 17109.69 | 0.30487 | 9480.742 | 0.93826 |
| 1000 | 32.182 | 0.005 | 23.868 | 14 | 8182.828 | 18019.24 | 0.314415 | 9836.412 | 0.973459 |
| 1000 | 32.182 | 0.005 | 23.868 | 16 | 8671.072 | 18794.11 | 0.322024 | 10123.04 | 1.001825 |
| 1000 | 32.182 | 0.005 | 23.868 | 18 | 9108.342 | 19467.7 | 0.328242 | 10359.36 | 1.025212 |
| 1000 | 32.182 | 0.005 | 23.868 | 20 | 9504.815 | 20062.49 | 0.333423 | 10557.67 | 1.044838 |
| 1000 | 32.182 | 0.005 | 23.868 | 22 | 9867.848 | 20594.29 | 0.337806 | 10726.45 | 1.061541 |
| 1000 | 32.182 | 0.005 | 23.868 | 24 | 10202.95 | 21074.67 | 0.341559 | 10871.72 | 1.075918 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.006 | 23.868 | 2 | 1898.983 | 5272.465 | 0.118943 | 3373.482 | 0.330909 |
| 1000 | 32.182 | 0.006 | 23.868 | 4 | 3963.66 | 10157.41 | 0.20752 | 6193.753 | 0.607552 |
| 1000 | 32.182 | 0.006 | 23.868 | 6 | 5257.123 | 12845.2 | 0.248135 | 7588.077 | 0.744323 |
| 1000 | 32.182 | 0.006 | 23.868 | 8 | 6212.74 | 14679.55 | 0.272745 | 8466.814 | 0.830519 |
| 1000 | 32.182 | 0.006 | 23.868 | 10 | 6977.129 | 16062.07 | 0.289622 | 9084.944 | 0.891153 |
| 1000 | 32.182 | 0.006 | 23.868 | 12 | 7617.091 | 17166.12 | 0.302064 | 9549.024 | 0.936675 |
| 1000 | 32.182 | 0.006 | 23.868 | 14 | 8169.211 | 18081.96 | 0.311683 | 9912.753 | 0.972353 |
| 1000 | 32.182 | 0.006 | 23.868 | 16 | 8655.8 | 18862.47 | 0.319371 | 10206.67 | 1.001184 |
| 1000 | 32.182 | 0.006 | 23.868 | 18 | 9091.509 | 19541.17 | 0.325671 | 10449.66 | 1.025019 |
| 1000 | 32.182 | 0.006 | 23.868 | 20 | 9486.502 | 20140.62 | 0.330933 | 10654.12 | 1.045075 |
| 1000 | 32.182 | 0.006 | 23.868 | 22 | 9848.128 | 20676.73 | 0.335396 | 10828.6 | 1.06219 |
| 1000 | 32.182 | 0.006 | 23.868 | 24 | 10181.88 | 21161.09 | 0.339228 | 10979.21 | 1.076963 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.007 | 23.868 | 2 | 1898.257 | 5277.416 | 0.117152 | 3379.159 | 0.328565 |
| 1000 | 32.182 | 0.007 | 23.868 | 4 | 3960.584 | 10176.03 | 0.20488 | 6215.444 | 0.604345 |
| 1000 | 32.182 | 0.007 | 23.868 | 6 | 5251.572 | 12875.18 | 0.245305 | 7623.606 | 0.741264 |
| 1000 | 32.182 | 0.007 | 23.868 | 8 | 6205.008 | 14718.89 | 0.269882 | 8513.885 | 0.827828 |
| 1000 | 32.182 | 0.007 | 23.868 | 10 | 6967.398 | 16109.34 | 0.286786 | 9141.943 | 0.888896 |
| 1000 | 32.182 | 0.007 | 23.868 | 12 | 7605.514 | 17220.26 | 0.299282 | 9614.747 | 0.934868 |
| 1000 | 32.182 | 0.007 | 23.868 | 14 | 8155.915 | 18142.19 | 0.308966 | 9986.271 | 0.970993 |
| 1000 | 32.182 | 0.007 | 23.868 | 16 | 8640.892 | 18928.14 | 0.316725 | 10287.25 | 1.000257 |
| 1000 | 32.182 | 0.007 | 23.868 | 18 | 9075.084 | 19611.77 | 0.323099 | 10536.69 | 1.024511 |
| 1000 | 32.182 | 0.007 | 23.868 | 20 | 9468.638 | 20215.75 | 0.328436 | 10747.11 | 1.044971 |
| 1000 | 32.182 | 0.007 | 23.868 | 22 | 9828.895 | 20756.02 | 0.332973 | 10927.12 | 1.062474 |
| 1000 | 32.182 | 0.007 | 23.868 | 24 | 10161.34 | 21244.25 | 0.336879 | 11082.91 | 1.077621 |
| | | | | | | | | | |
| 1000 | 32.182 | 0.008 | 23.868 | 2 | 1897.545 | 5282.136 | 0.115413 | 3384.59 | 0.326238 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 32.182 | 0.008 | 23.868 | 4 | 3957.566 | 10193.82 | 0.202299 | 6236.257 | 0.601108 |
| 1000 | 32.182 | 0.008 | 23.868 | 6 | 5246.138 | 12903.88 | 0.242525 | 7657.744 | 0.738124 |
| 1000 | 32.182 | 0.008 | 23.868 | 8 | 6197.445 | 14756.6 | 0.267061 | 8559.158 | 0.825011 |
| 1000 | 32.182 | 0.008 | 23.868 | 10 | 6957.885 | 16154.69 | 0.283983 | 9196.807 | 0.886473 |
| 1000 | 32.182 | 0.008 | 23.868 | 12 | 7594.2 | 17272.25 | 0.296524 | 9678.047 | 0.93286 |
| 1000 | 32.182 | 0.008 | 23.868 | 14 | 8142.927 | 18200.04 | 0.306266 | 10057.11 | 0.969398 |
| 1000 | 32.182 | 0.008 | 23.868 | 16 | 8626.336 | 18991.26 | 0.31409 | 10364.92 | 0.999067 |
| 1000 | 32.182 | 0.008 | 23.868 | 18 | 9059.049 | 19679.67 | 0.320531 | 10620.62 | 1.023714 |
| 1000 | 32.182 | 0.008 | 23.868 | 20 | 9451.205 | 20288.01 | 0.325937 | 10836.81 | 1.044552 |
| 1000 | 32.182 | 0.008 | 23.868 | 22 | 9810.131 | 20832.32 | 0.330542 | 11022.19 | 1.062421 |
| 1000 | 32.182 | 0.008 | 23.868 | 24 | 10141.31 | 21324.3 | 0.334515 | 11182.99 | 1.07792 |
| 1200 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 6289.817 | 0.13748 | 4378.068 | 0.496684 |
| 1200 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 12047.12 | 0.237731 | 8027.131 | 0.910663 |
| 1200 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 15184.08 | 0.283228 | 9832.497 | 1.115479 |
| 1200 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 17311.75 | 0.310602 | 10968.52 | 1.244358 |
| 1200 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 18907.99 | 0.32931 | 11767.68 | 1.335021 |
| 1200 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 20178.04 | 0.343072 | 12367.82 | 1.403107 |
| 1200 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 21228.39 | 0.353695 | 12838.38 | 1.45649 |
| 1200 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 22121.19 | 0.362178 | 13218.8 | 1.499648 |
| 1200 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 22895.76 | 0.369124 | 13533.47 | 1.535347 |
| 1200 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 23578.51 | 0.374925 | 13798.41 | 1.565404 |
| 1200 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 24187.98 | 0.379843 | 14024.65 | 1.591071 |
| 1200 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 24737.72 | 0.384066 | 14220.08 | 1.613242 |
| 1200 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 6299.167 | 0.134774 | 4388.396 | 0.492824 |
| 1200 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 12081.97 | 0.233829 | 8066.339 | 0.905862 |
| 1200 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 15239.89 | 0.279076 | 9895.989 | 1.111334 |
| 1200 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 17384.68 | 0.306424 | 11052.21 | 1.24118 |
| 1200 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 18995.33 | 0.325186 | 11868.64 | 1.332866 |
| 1200 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 20277.82 | 0.339035 | 12483.88 | 1.401958 |
| 1200 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 21339.13 | 0.349759 | 12967.86 | 1.45631 |
| 1200 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 22241.71 | 0.358349 | 13360.39 | 1.500392 |
| 1200 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 23025.12 | 0.365405 | 13686.11 | 1.53697 |
| 1200 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 23715.93 | 0.371315 | 13961.21 | 1.567865 |
| 1200 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 24332.83 | 0.376341 | 14196.87 | 1.59433 |
| 1200 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 24889.44 | 0.38067 | 14401.08 | 1.617263 |
| 1200 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 6307.927 | 0.132168 | 4398.115 | 0.488973 |
| 1200 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 12114.77 | 0.230034 | 8103.384 | 0.900917 |
| 1200 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 15292.53 | 0.275016 | 9956.128 | 1.106901 |
| 1200 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 17453.6 | 0.30232 | 11131.62 | 1.237589 |
| 1200 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 19077.98 | 0.321118 | 11964.55 | 1.330192 |
| 1200 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 20372.36 | 0.335038 | 12594.23 | 1.400199 |
| 1200 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 21444.14 | 0.34585 | 13091.08 | 1.455438 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 22356.08 | 0.354535 | 13495.23 | 1.500371 |
| 1200 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 23147.97 | 0.361688 | 13831.55 | 1.537762 |
| 1200 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 23846.52 | 0.367696 | 14116.42 | 1.569433 |
| 1200 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 24470.55 | 0.372819 | 14361.14 | 1.59664 |
| 1200 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 25033.76 | 0.377244 | 14573.8 | 1.620284 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 6316.151 | 0.129656 | 4407.277 | 0.485137 |
| 1200 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 12145.68 | 0.226346 | 8138.441 | 0.89585 |
| 1200 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 15342.26 | 0.271047 | 10013.17 | 1.102213 |
| 1200 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 17518.81 | 0.298291 | 11207.05 | 1.233632 |
| 1200 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 19156.29 | 0.31711 | 12055.75 | 1.327054 |
| 1200 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 20462.01 | 0.331087 | 12699.27 | 1.39789 |
| 1200 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 21543.8 | 0.341973 | 13208.46 | 1.45394 |
| 1200 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 22464.72 | 0.350741 | 13623.76 | 1.499655 |
| 1200 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 23264.73 | 0.357981 | 13970.27 | 1.537797 |
| 1200 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 23970.71 | 0.364076 | 14264.53 | 1.570188 |
| 1200 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 24601.58 | 0.369287 | 14517.95 | 1.598084 |
| 1200 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 25171.14 | 0.373799 | 14738.75 | 1.622388 |
| | | | | | | | | | |
| 1200 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 6323.884 | 0.127234 | 4415.929 | 0.481321 |
| 1200 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 12174.85 | 0.222759 | 8171.664 | 0.890683 |
| 1200 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 15389.3 | 0.267169 | 10067.33 | 1.097305 |
| 1200 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 17580.58 | 0.294338 | 11278.79 | 1.229349 |
| 1200 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 19230.55 | 0.313165 | 12142.59 | 1.3235 |
| 1200 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 20547.12 | 0.327187 | 12799.36 | 1.395086 |
| 1200 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 21638.49 | 0.338135 | 13320.38 | 1.451876 |
| 1200 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 22568 | 0.346974 | 13746.39 | 1.498309 |
| 1200 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 23375.79 | 0.354291 | 14102.68 | 1.537144 |
| 1200 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 24088.9 | 0.360464 | 14405.96 | 1.5702 |
| 1200 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 24726.35 | 0.365754 | 14667.77 | 1.598736 |
| 1200 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 25302 | 0.370344 | 14896.39 | 1.623655 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 7345.775 | 0.137819 | 5434.025 | 0.61648 |
| 1400 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 14082.51 | 0.240358 | 10062.53 | 1.141575 |
| 1400 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 17758.7 | 0.287877 | 12407.11 | 1.407563 |
| 1400 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 20254.38 | 0.316953 | 13911.14 | 1.578193 |
| 1400 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 22127.94 | 0.337127 | 14987.63 | 1.700318 |
| 1400 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 23619.4 | 0.352182 | 15809.19 | 1.793523 |
| 1400 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 24853.39 | 0.363964 | 16463.38 | 1.86774 |
| 1400 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 25902.65 | 0.3735 | 17000.26 | 1.928648 |
| 1400 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 26813.23 | 0.381414 | 17450.94 | 1.979777 |
| 1400 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 27616.08 | 0.38811 | 17835.99 | 2.02346 |
| 1400 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 28332.95 | 0.393865 | 18169.62 | 2.06131 |
| 1400 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 28979.68 | 0.398873 | 18462.05 | 2.094485 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 7357.83 | 0.134762 | 5447.06 | 0.611713 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 14127.8 | 0.235852 | 10112.17 | 1.135612 |
| 1400 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 17831.38 | 0.283001 | 12487.48 | 1.402363 |
| 1400 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 20349.5 | 0.311973 | 14017.04 | 1.574134 |
| 1400 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 22241.99 | 0.332144 | 15115.3 | 1.697471 |
| 1400 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 23749.82 | 0.347239 | 15955.87 | 1.791869 |
| 1400 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 24998.22 | 0.359083 | 16626.95 | 1.867231 |
| 1400 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 26060.37 | 0.368693 | 17179.05 | 1.929233 |
| 1400 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 26982.61 | 0.376686 | 17643.59 | 1.981402 |
| 1400 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 27796.11 | 0.383465 | 18041.38 | 2.026074 |
| 1400 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 28522.77 | 0.389303 | 18386.81 | 2.064866 |
| 1400 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 29178.58 | 0.394393 | 18690.23 | 2.098941 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 7369.033 | 0.131832 | 5459.221 | 0.606944 |
| 1400 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 14170.06 | 0.231491 | 10158.68 | 1.12942 |
| 1400 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 17899.38 | 0.278255 | 12562.98 | 1.396724 |
| 1400 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 20438.66 | 0.307106 | 14116.69 | 1.569463 |
| 1400 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 22349.05 | 0.327255 | 15235.61 | 1.693862 |
| 1400 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 23872.38 | 0.342375 | 16094.26 | 1.789324 |
| 1400 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 25134.47 | 0.354267 | 16781.41 | 1.865721 |
| 1400 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 26208.87 | 0.363937 | 17348.02 | 1.928714 |
| 1400 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 27142.21 | 0.371998 | 17825.79 | 1.981833 |
| 1400 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 27965.85 | 0.378847 | 18235.75 | 2.027411 |
| 1400 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 28701.86 | 0.384757 | 18592.45 | 2.067069 |
| 1400 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 29366.34 | 0.389921 | 18906.39 | 2.101971 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 7379.469 | 0.129022 | 5470.595 | 0.602183 |
| 1400 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 14209.56 | 0.227269 | 10202.33 | 1.123035 |
| 1400 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 17963.1 | 0.273637 | 12634.01 | 1.390706 |
| 1400 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 20522.37 | 0.30235 | 14210.61 | 1.564253 |
| 1400 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 22449.69 | 0.322463 | 15349.15 | 1.68958 |
| 1400 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 23987.73 | 0.337593 | 16224.99 | 1.785988 |
| 1400 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 25262.81 | 0.349521 | 16927.46 | 1.863314 |
| 1400 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 26348.86 | 0.35924 | 17507.9 | 1.927206 |
| 1400 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 27292.76 | 0.367357 | 17998.31 | 1.981189 |
| 1400 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 28126.07 | 0.374267 | 18419.89 | 2.027595 |
| 1400 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 28871 | 0.380239 | 18787.38 | 2.068047 |
| 1400 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 29543.76 | 0.385466 | 19111.37 | 2.103711 |
| | | | | | | | | | |
| 1400 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 7389.21 | 0.126324 | 5481.254 | 0.597438 |
| 1400 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 14246.56 | 0.223183 | 10243.37 | 1.116493 |
| 1400 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 18022.92 | 0.269144 | 12700.95 | 1.38436 |
| 1400 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 20601.06 | 0.297707 | 14299.27 | 1.558571 |
| 1400 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 22544.43 | 0.31777 | 15456.46 | 1.684701 |
| 1400 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 24096.42 | 0.332899 | 16348.66 | 1.781948 |
| 1400 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 25383.85 | 0.34485 | 17065.73 | 1.860107 |
| 1400 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 26480.98 | 0.354607 | 17659.37 | 1.924811 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1400 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 27434.95 | 0.36277 | 18161.84 | 1.979578 |
| 1400 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 28277.48 | 0.369731 | 18594.53 | 2.02674 |
| 1400 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 29030.91 | 0.375757 | 18972.33 | 2.067919 |
| 1400 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 29711.57 | 0.38104 | 19305.95 | 2.104283 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 8403.867 | 0.137598 | 6492.117 | 0.736519 |
| 1600 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 16124.72 | 0.241439 | 12104.74 | 1.37326 |
| 1600 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 20344.09 | 0.290239 | 14992.5 | 1.700871 |
| 1600 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 23211.07 | 0.320421 | 16867.83 | 1.913624 |
| 1600 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 25364.75 | 0.341559 | 18224.44 | 2.067528 |
| 1600 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 27080.06 | 0.357466 | 19269.85 | 2.186129 |
| 1600 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 28499.83 | 0.370013 | 20109.82 | 2.281422 |
| 1600 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 29707.47 | 0.380245 | 20805.08 | 2.360298 |
| 1600 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 30755.82 | 0.388799 | 21393.53 | 2.427057 |
| 1600 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 31680.38 | 0.396089 | 21900.29 | 2.484547 |
| 1600 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 32506.11 | 0.402397 | 22342.78 | 2.534747 |
| 1600 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 33251.22 | 0.407924 | 22733.58 | 2.579083 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 8418.733 | 0.134212 | 6507.963 | 0.730854 |
| 1600 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 16181.21 | 0.236373 | 12165.58 | 1.366213 |
| 1600 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 20434.98 | 0.284697 | 15091.08 | 1.694751 |
| 1600 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 23330.2 | 0.314709 | 16997.74 | 1.908871 |
| 1600 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 25507.73 | 0.335794 | 18381.05 | 2.064219 |
| 1600 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 27243.7 | 0.351704 | 19449.75 | 2.184237 |
| 1600 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 28681.68 | 0.364283 | 20310.41 | 2.28089 |
| 1600 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 29905.62 | 0.374563 | 21024.3 | 2.361061 |
| 1600 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 30968.73 | 0.383173 | 21629.71 | 2.429049 |
| 1600 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 31906.77 | 0.390525 | 22152.04 | 2.487708 |
| 1600 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 32744.92 | 0.396897 | 22608.95 | 2.53902 |
| 1600 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 33501.53 | 0.40249 | 23013.18 | 2.584415 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 8432.453 | 0.130982 | 6522.641 | 0.725173 |
| 1600 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 16233.49 | 0.23149 | 12222.11 | 1.358827 |
| 1600 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 20519.33 | 0.279325 | 15182.93 | 1.688005 |
| 1600 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 23440.98 | 0.309148 | 17119 | 1.903254 |
| 1600 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 25640.91 | 0.330163 | 18527.47 | 2.059844 |
| 1600 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 27396.3 | 0.346059 | 19618.17 | 2.181106 |
| 1600 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 28851.45 | 0.358655 | 20498.39 | 2.278966 |
| 1600 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 30090.77 | 0.368969 | 21229.92 | 2.360296 |
| 1600 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 31167.82 | 0.377624 | 21851.41 | 2.429392 |
| 1600 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 32118.63 | 0.385025 | 22388.53 | 2.489108 |
| 1600 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 32968.54 | 0.391451 | 22859.14 | 2.541429 |
| 1600 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 33736.08 | 0.397099 | 23276.12 | 2.587789 |
| | | | | | | | | | |
| 1600 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 8445.147 | 0.127899 | 6536.273 | 0.719489 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1600 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 16281.99 | 0.226784 | 12274.75 | 1.351161 |
| 1600 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 20597.78 | 0.274119 | 15268.68 | 1.680721 |
| 1600 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 23544.2 | 0.303738 | 17232.44 | 1.896885 |
| 1600 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 25765.17 | 0.324668 | 18664.63 | 2.054536 |
| 1600 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 27538.85 | 0.340537 | 19776.11 | 2.176883 |
| 1600 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 29010.19 | 0.353136 | 20674.85 | 2.275812 |
| 1600 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 30264.05 | 0.363472 | 21423.09 | 2.358177 |
| 1600 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 31354.29 | 0.372159 | 22059.83 | 2.428267 |
| 1600 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 32317.17 | 0.3796 | 22610.99 | 2.488936 |
| 1600 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 33178.24 | 0.386069 | 23094.61 | 2.542172 |
| 1600 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 33956.13 | 0.391764 | 23523.74 | 2.589409 |
| 1600 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 8456.923 | 0.124952 | 6548.967 | 0.713815 |
| 1600 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 16327.09 | 0.222248 | 12323.9 | 1.343263 |
| 1600 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 20670.9 | 0.269075 | 15348.93 | 1.67298 |
| 1600 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 23640.56 | 0.298478 | 17338.77 | 1.889866 |
| 1600 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 25881.32 | 0.31931 | 18793.36 | 2.048411 |
| 1600 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 27672.25 | 0.335139 | 19924.49 | 2.171701 |
| 1600 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 29158.86 | 0.34773 | 20840.75 | 2.271571 |
| 1600 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 30426.46 | 0.358077 | 21604.85 | 2.354854 |
| 1600 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 31529.18 | 0.366786 | 22256.07 | 2.425835 |
| 1600 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 32503.51 | 0.374257 | 22820.56 | 2.487363 |
| 1600 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 33375.14 | 0.380761 | 23316.56 | 2.541426 |
| 1600 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 34162.86 | 0.386494 | 23757.24 | 2.589458 |
| 1800 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 9464.196 | 0.137057 | 7552.446 | 0.856811 |
| 1800 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 18173.52 | 0.241616 | 14153.53 | 1.605692 |
| 1800 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 22939.79 | 0.291261 | 17588.2 | 1.995349 |
| 1800 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 26181.17 | 0.322199 | 19837.93 | 2.250577 |
| 1800 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 28617.61 | 0.344004 | 21477.3 | 2.43656 |
| 1800 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 30559.08 | 0.360506 | 22748.87 | 2.580817 |
| 1800 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 32166.67 | 0.373591 | 23776.66 | 2.697418 |
| 1800 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 33534.54 | 0.384314 | 24632.15 | 2.794472 |
| 1800 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 34722.32 | 0.39332 | 25360.03 | 2.877049 |
| 1800 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 35770.12 | 0.401028 | 25990.02 | 2.94852 |
| 1800 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 36706.13 | 0.407727 | 26542.8 | 3.011231 |
| 1800 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 37550.92 | 0.413622 | 27033.28 | 3.066875 |
| 1800 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 9481.878 | 0.13336 | 7571.107 | 0.850247 |
| 1800 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 18241.79 | 0.236022 | 14226.16 | 1.597619 |
| 1800 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 23049.96 | 0.285093 | 17706.06 | 1.988417 |
| 1800 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 26325.8 | 0.3158 | 19993.33 | 2.245282 |
| 1800 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 28791.39 | 0.33751 | 21664.7 | 2.432979 |
| 1800 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 30758.13 | 0.353982 | 22964.18 | 2.578912 |
| 1800 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 32388.02 | 0.367073 | 24016.75 | 2.697117 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1800 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 33775.86 | 0.377821 | 24894.54 | 2.795695 |
| 1800 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 34981.75 | 0.386864 | 25642.73 | 2.879717 |
| 1800 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 36046.09 | 0.394618 | 26291.37 | 2.95256 |
| 1800 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 36997.35 | 0.401366 | 26861.39 | 3.016574 |
| 1800 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 37856.28 | 0.407312 | 27367.93 | 3.07346 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 9498.106 | 0.12985 | 7588.294 | 0.84365 |
| 1800 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 18304.48 | 0.230653 | 14293.1 | 1.589076 |
| 1800 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 23151.42 | 0.279138 | 17815.01 | 1.980634 |
| 1800 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 26459.27 | 0.309596 | 20137.29 | 2.23882 |
| 1800 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 28952.03 | 0.331193 | 21838.59 | 2.427967 |
| 1800 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 30942.36 | 0.347618 | 23164.23 | 2.575349 |
| 1800 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 32593.13 | 0.360698 | 24240.08 | 2.694959 |
| 1800 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 33999.7 | 0.371458 | 25138.85 | 2.794882 |
| 1800 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 35222.57 | 0.380525 | 25906.16 | 2.88019 |
| 1800 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 36302.47 | 0.388311 | 26572.38 | 2.954259 |
| 1800 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 37268.09 | 0.395097 | 27158.68 | 3.019443 |
| 1800 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 38140.35 | 0.401084 | 27680.4 | 3.077446 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 9513.043 | 0.126514 | 7604.169 | 0.83704 |
| 1800 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 18362.23 | 0.2255 | 14355 | 1.580147 |
| 1800 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 23245.1 | 0.273391 | 17916 | 1.972129 |
| 1800 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 26582.74 | 0.303585 | 20270.99 | 2.231357 |
| 1800 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 29100.85 | 0.325053 | 22000.32 | 2.421716 |
| 1800 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 31113.25 | 0.341417 | 23350.51 | 2.57034 |
| 1800 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 32783.58 | 0.354473 | 24448.24 | 2.691174 |
| 1800 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 34207.72 | 0.365231 | 25366.76 | 2.792282 |
| 1800 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 35446.56 | 0.37431 | 26152.1 | 2.878729 |
| 1800 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 36541.09 | 0.382118 | 26834.91 | 2.95389 |
| 1800 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 37520.22 | 0.388932 | 27436.6 | 3.020122 |
| 1800 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 38405.05 | 0.394951 | 27972.66 | 3.079129 |
| | | | | | | | | | |
| 1800 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 9526.829 | 0.123341 | 7618.874 | 0.830431 |
| 1800 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 18415.58 | 0.220553 | 14412.4 | 1.570902 |
| 1800 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 23331.83 | 0.267845 | 18009.86 | 1.963014 |
| 1800 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 26697.24 | 0.297763 | 20395.45 | 2.223034 |
| 1800 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 29239.04 | 0.31909 | 22151.07 | 2.414391 |
| 1800 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 31272.1 | 0.33538 | 23524.34 | 2.564073 |
| 1800 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 32960.77 | 0.3484 | 24642.66 | 2.685965 |
| 1800 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 34401.41 | 0.359145 | 25579.8 | 2.788111 |
| 1800 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 35655.26 | 0.368227 | 26382.14 | 2.875563 |
| 1800 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 36763.57 | 0.376047 | 27080.62 | 2.951695 |
| 1800 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 37755.43 | 0.382879 | 27696.85 | 3.018862 |
| 1800 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 38652.1 | 0.388922 | 28246.48 | 3.07877 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 2000 | 28.182 | 0.004 | 19.868 | 2 | 1911.75 | 10526.88 | 0.136322 | 8615.126 | 0.97737 |
| 2000 | 28.182 | 0.004 | 19.868 | 4 | 4019.985 | 20228.72 | 0.241225 | 16208.74 | 1.838851 |
| 2000 | 28.182 | 0.004 | 19.868 | 6 | 5351.587 | 25545.39 | 0.291435 | 20193.81 | 2.29095 |
| 2000 | 28.182 | 0.004 | 19.868 | 8 | 6343.236 | 29164.1 | 0.322906 | 22820.86 | 2.588985 |
| 2000 | 28.182 | 0.004 | 19.868 | 10 | 7140.309 | 31885.81 | 0.345191 | 24745.5 | 2.807331 |
| 2000 | 28.182 | 0.004 | 19.868 | 12 | 7810.211 | 34055.62 | 0.362126 | 26245.41 | 2.977493 |
| 2000 | 28.182 | 0.004 | 19.868 | 14 | 8390.012 | 35852.98 | 0.375604 | 27462.97 | 3.115623 |
| 2000 | 28.182 | 0.004 | 19.868 | 16 | 8902.391 | 37382.82 | 0.386688 | 28480.43 | 3.231051 |
| 2000 | 28.182 | 0.004 | 19.868 | 18 | 9362.289 | 38711.63 | 0.396026 | 29349.34 | 3.329628 |
| 2000 | 28.182 | 0.004 | 19.868 | 20 | 9780.093 | 39884.12 | 0.404044 | 30104.02 | 3.415245 |
| 2000 | 28.182 | 0.004 | 19.868 | 22 | 10163.33 | 40931.75 | 0.411032 | 30768.42 | 3.49062 |
| 2000 | 28.182 | 0.004 | 19.868 | 24 | 10517.64 | 41877.48 | 0.417198 | 31359.84 | 3.557716 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.005 | 19.868 | 2 | 1910.77 | 10547.27 | 0.132328 | 8636.503 | 0.969892 |
| 2000 | 28.182 | 0.005 | 19.868 | 4 | 4015.632 | 20309.17 | 0.23513 | 16293.54 | 1.829789 |
| 2000 | 28.182 | 0.005 | 19.868 | 6 | 5343.899 | 25675.68 | 0.284674 | 20331.78 | 2.283289 |
| 2000 | 28.182 | 0.005 | 19.868 | 8 | 6332.464 | 29335.43 | 0.315857 | 23002.96 | 2.583268 |
| 2000 | 28.182 | 0.005 | 19.868 | 10 | 7126.69 | 32091.91 | 0.338007 | 24965.22 | 2.803632 |
| 2000 | 28.182 | 0.005 | 19.868 | 12 | 7793.946 | 34291.88 | 0.354883 | 26497.94 | 2.975758 |
| 2000 | 28.182 | 0.005 | 19.868 | 14 | 8371.27 | 36115.9 | 0.368343 | 27744.63 | 3.115763 |
| 2000 | 28.182 | 0.005 | 19.868 | 16 | 8881.321 | 37669.62 | 0.379432 | 28788.3 | 3.23297 |
| 2000 | 28.182 | 0.005 | 19.868 | 18 | 9339.015 | 39020.09 | 0.388791 | 29681.07 | 3.333229 |
| 2000 | 28.182 | 0.005 | 19.868 | 20 | 9754.723 | 40212.4 | 0.396839 | 30457.67 | 3.420443 |
| 2000 | 28.182 | 0.005 | 19.868 | 22 | 10135.96 | 41278.31 | 0.403863 | 31142.34 | 3.497332 |
| 2000 | 28.182 | 0.005 | 19.868 | 24 | 10488.36 | 42240.99 | 0.410069 | 31752.64 | 3.565869 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.006 | 19.868 | 2 | 1909.812 | 10565.93 | 0.128555 | 8656.114 | 0.962368 |
| 2000 | 28.182 | 0.006 | 19.868 | 4 | 4011.383 | 20382.53 | 0.229305 | 16371.15 | 1.820109 |
| 2000 | 28.182 | 0.006 | 19.868 | 6 | 5336.406 | 25794.78 | 0.278172 | 20458.37 | 2.274517 |
| 2000 | 28.182 | 0.006 | 19.868 | 8 | 6321.974 | 29492.38 | 0.309049 | 23170.41 | 2.576036 |
| 2000 | 28.182 | 0.006 | 19.868 | 10 | 7113.437 | 32281.04 | 0.331046 | 25167.6 | 2.798079 |
| 2000 | 28.182 | 0.006 | 19.868 | 12 | 7778.128 | 34508.99 | 0.347844 | 26730.86 | 2.971879 |
| 2000 | 28.182 | 0.006 | 19.868 | 14 | 8353.056 | 36357.78 | 0.361269 | 28004.72 | 3.113504 |
| 2000 | 28.182 | 0.006 | 19.868 | 16 | 8860.851 | 37933.75 | 0.372348 | 29072.9 | 3.232261 |
| 2000 | 28.182 | 0.006 | 19.868 | 18 | 9316.414 | 39304.41 | 0.381714 | 29988 | 3.334 |
| 2000 | 28.182 | 0.006 | 19.868 | 20 | 9730.099 | 40515.23 | 0.389779 | 30785.13 | 3.422624 |
| 2000 | 28.182 | 0.006 | 19.868 | 22 | 10109.41 | 41598.23 | 0.396828 | 31488.82 | 3.500858 |
| 2000 | 28.182 | 0.006 | 19.868 | 24 | 10459.95 | 42576.79 | 0.403063 | 32116.83 | 3.570679 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.007 | 19.868 | 2 | 1908.874 | 10583.03 | 0.124985 | 8674.157 | 0.95482 |
| 2000 | 28.182 | 0.007 | 19.868 | 4 | 4007.234 | 20449.66 | 0.223737 | 16442.43 | 1.809923 |
| 2000 | 28.182 | 0.007 | 19.868 | 6 | 5329.098 | 25904.02 | 0.271921 | 20574.92 | 2.264813 |
| 2000 | 28.182 | 0.007 | 19.868 | 8 | 6311.755 | 29636.6 | 0.302478 | 23324.85 | 2.567515 |
| 2000 | 28.182 | 0.007 | 19.868 | 10 | 7100.535 | 32455.07 | 0.324307 | 25354.54 | 2.790936 |
| 2000 | 28.182 | 0.007 | 19.868 | 12 | 7762.739 | 34709.02 | 0.341012 | 26946.28 | 2.966149 |
| 2000 | 28.182 | 0.007 | 19.868 | 14 | 8335.344 | 36580.86 | 0.354388 | 28245.52 | 3.109165 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 2000 | 28.182 | 0.007 | 19.868 | 16 | 8840.956 | 38177.57 | 0.365444 | 29336.62 | 3.229269 |
| 2000 | 28.182 | 0.007 | 19.868 | 18 | 9294.456 | 39567.09 | 0.374804 | 30272.64 | 3.332303 |
| 2000 | 28.182 | 0.007 | 19.868 | 20 | 9706.183 | 40795.21 | 0.382875 | 31089.02 | 3.422168 |
| 2000 | 28.182 | 0.007 | 19.868 | 22 | 10083.62 | 41894.19 | 0.389938 | 31810.56 | 3.501592 |
| 2000 | 28.182 | 0.007 | 19.868 | 24 | 10432.39 | 42887.61 | 0.396192 | 32455.23 | 3.572554 |
| | | | | | | | | | |
| 2000 | 28.182 | 0.008 | 19.868 | 2 | 1907.955 | 10598.76 | 0.121604 | 8690.803 | 0.947268 |
| 2000 | 28.182 | 0.008 | 19.868 | 4 | 4003.182 | 20511.3 | 0.218412 | 16508.12 | 1.799329 |
| 2000 | 28.182 | 0.008 | 19.868 | 6 | 5321.97 | 26004.52 | 0.265912 | 20682.55 | 2.254327 |
| 2000 | 28.182 | 0.008 | 19.868 | 8 | 6301.795 | 29769.5 | 0.296139 | 23467.71 | 2.5579 |
| 2000 | 28.182 | 0.008 | 19.868 | 10 | 7087.969 | 32615.66 | 0.317786 | 25527.69 | 2.782431 |
| 2000 | 28.182 | 0.008 | 19.868 | 12 | 7747.759 | 34893.78 | 0.334387 | 27146.02 | 2.958823 |
| 2000 | 28.182 | 0.008 | 19.868 | 14 | 8318.112 | 36787.11 | 0.347701 | 28469 | 3.103024 |
| 2000 | 28.182 | 0.008 | 19.868 | 16 | 8821.609 | 38403.18 | 0.358724 | 29581.57 | 3.22429 |
| 2000 | 28.182 | 0.008 | 19.868 | 18 | 9273.112 | 39810.31 | 0.368067 | 30537.2 | 3.328451 |
| 2000 | 28.182 | 0.008 | 19.868 | 20 | 9682.943 | 41054.61 | 0.376134 | 31371.67 | 3.419404 |
| 2000 | 28.182 | 0.008 | 19.868 | 22 | 10058.58 | 42168.56 | 0.383201 | 32109.98 | 3.499878 |
| 2000 | 28.182 | 0.008 | 19.868 | 24 | 10405.62 | 43175.92 | 0.389466 | 32770.3 | 3.57185 |
| | | | | | | | | | |
| 1000 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 5204.152 | 0.146169 | 3288.26 | 0.388931 |
| 1000 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 9902.444 | 0.245846 | 5863.918 | 0.693577 |
| 1000 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 12436.15 | 0.288094 | 7051.702 | 0.834067 |
| 1000 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 14144.13 | 0.312098 | 7754.728 | 0.91722 |
| 1000 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 15419.92 | 0.327631 | 8221.109 | 0.972383 |
| 1000 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 16431.59 | 0.338449 | 8551.388 | 1.011448 |
| 1000 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 17265.97 | 0.346339 | 8795.197 | 1.040285 |
| 1000 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 17973.57 | 0.352275 | 8980.253 | 1.062174 |
| 1000 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 18586.25 | 0.356836 | 9123.408 | 1.079106 |
| 1000 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 19125.36 | 0.36039 | 9235.546 | 1.092369 |
| 1000 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 19605.89 | 0.363185 | 9324.074 | 1.10284 |
| 1000 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 20038.71 | 0.365391 | 9394.195 | 1.111134 |
| | | | | | | | | | |
| 1000 | 29.182 | 0 | 20.868 | 2 | 1912.505 | 5213.126 | 0.142025 | 3300.621 | 0.377016 |
| 1000 | 29.182 | 0 | 20.868 | 4 | 4023.935 | 9936.038 | 0.240191 | 5912.103 | 0.675314 |
| 1000 | 29.182 | 0 | 20.868 | 6 | 5359.076 | 12490.15 | 0.282355 | 7131.076 | 0.814552 |
| 1000 | 29.182 | 0 | 20.868 | 8 | 6354.239 | 14214.91 | 0.306582 | 7860.675 | 0.897891 |
| 1000 | 29.182 | 0 | 20.868 | 10 | 7154.727 | 15504.9 | 0.322434 | 8350.178 | 0.953805 |
| 1000 | 29.182 | 0 | 20.868 | 12 | 7827.927 | 16528.89 | 0.333601 | 8700.963 | 0.993873 |
| 1000 | 29.182 | 0 | 20.868 | 14 | 8410.903 | 17374.14 | 0.341847 | 8963.241 | 1.023832 |
| 1000 | 29.182 | 0 | 20.868 | 16 | 8926.351 | 18091.48 | 0.348136 | 9165.133 | 1.046893 |
| 1000 | 29.182 | 0 | 20.868 | 18 | 9389.209 | 18713 | 0.353043 | 9323.793 | 1.065016 |
| 1000 | 29.182 | 0 | 20.868 | 20 | 9809.882 | 19260.19 | 0.356934 | 9450.313 | 1.079468 |
| 1000 | 29.182 | 0 | 20.868 | 22 | 10195.9 | 19748.17 | 0.360055 | 9552.267 | 1.091114 |
| 1000 | 29.182 | 0 | 20.868 | 24 | 10552.91 | 20187.9 | 0.362578 | 9634.995 | 1.100564 |
| | | | | | | | | | |
| 1000 | 30.182 | 0 | 21.868 | 2 | 1909.346 | 5221.527 | 0.138108 | 3312.181 | 0.365801 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1000 | 30.182 | 0 | 21.868 | 4 | 4010.366 | 9967.54 | 0.234768 | 5957.174 | 0.657917 |
| 1000 | 30.182 | 0 | 21.868 | 6 | 5335.517 | 12540.86 | 0.276791 | 7205.34 | 0.795766 |
| 1000 | 30.182 | 0 | 21.868 | 8 | 6321.634 | 14281.44 | 0.30118 | 7959.807 | 0.87909 |
| 1000 | 30.182 | 0 | 21.868 | 10 | 7113.883 | 15584.84 | 0.317291 | 8470.958 | 0.935542 |
| 1000 | 30.182 | 0 | 21.868 | 12 | 7779.522 | 16620.45 | 0.328751 | 8840.932 | 0.976402 |
| 1000 | 30.182 | 0 | 21.868 | 14 | 8355.492 | 17475.99 | 0.337301 | 9120.502 | 1.007278 |
| 1000 | 30.182 | 0 | 21.868 | 16 | 8864.396 | 18202.55 | 0.343894 | 9338.159 | 1.031317 |
| 1000 | 30.182 | 0 | 21.868 | 18 | 9321.117 | 18832.43 | 0.349099 | 9511.311 | 1.05044 |
| 1000 | 30.182 | 0 | 21.868 | 20 | 9735.988 | 19387.28 | 0.353281 | 9651.291 | 1.065899 |
| 1000 | 30.182 | 0 | 21.868 | 22 | 10116.51 | 19882.31 | 0.356686 | 9765.8 | 1.078546 |
| 1000 | 30.182 | 0 | 21.868 | 24 | 10468.27 | 20328.6 | 0.359485 | 9860.322 | 1.088985 |
| | | | | | | | | | |
| 1000 | 31.182 | 0 | 22.868 | 2 | 1906.399 | 5229.404 | 0.134398 | 3323.005 | 0.355227 |
| 1000 | 31.182 | 0 | 22.868 | 4 | 3997.723 | 9997.151 | 0.229566 | 5999.428 | 0.641335 |
| 1000 | 31.182 | 0 | 22.868 | 6 | 5313.599 | 12588.57 | 0.271402 | 7274.969 | 0.777689 |
| 1000 | 31.182 | 0 | 22.868 | 8 | 6291.311 | 14344.09 | 0.2959 | 8052.777 | 0.860836 |
| 1000 | 31.182 | 0 | 22.868 | 10 | 7075.932 | 15660.16 | 0.312219 | 8584.231 | 0.917648 |
| 1000 | 31.182 | 0 | 22.868 | 12 | 7734.567 | 16706.78 | 0.323925 | 8972.212 | 0.959123 |
| 1000 | 31.182 | 0 | 22.868 | 14 | 8304.058 | 17572.05 | 0.332734 | 9267.997 | 0.990742 |
| 1000 | 31.182 | 0 | 22.868 | 16 | 8806.925 | 18307.35 | 0.339587 | 9500.426 | 1.015589 |
| 1000 | 31.182 | 0 | 22.868 | 18 | 9257.968 | 18945.15 | 0.34505 | 9687.185 | 1.035553 |
| 1000 | 31.182 | 0 | 22.868 | 20 | 9667.486 | 19507.26 | 0.349485 | 9839.775 | 1.051865 |
| 1000 | 31.182 | 0 | 22.868 | 22 | 10042.92 | 20008.99 | 0.353137 | 9966.065 | 1.065365 |
| 1000 | 31.182 | 0 | 22.868 | 24 | 10389.86 | 20461.5 | 0.356177 | 10071.64 | 1.076652 |
| | | | | | | | | | |
| 1000 | 32.182 | 0 | 23.868 | 2 | 1903.642 | 5236.809 | 0.13088 | 3333.167 | 0.345241 |
| 1000 | 32.182 | 0 | 23.868 | 4 | 3985.905 | 10025.02 | 0.224573 | 6039.119 | 0.625517 |
| 1000 | 32.182 | 0 | 23.868 | 6 | 5293.148 | 12633.54 | 0.266184 | 7340.394 | 0.7603 |
| 1000 | 32.182 | 0 | 23.868 | 8 | 6263.05 | 14403.18 | 0.290747 | 8140.133 | 0.843135 |
| 1000 | 32.182 | 0 | 23.868 | 10 | 7040.574 | 15731.25 | 0.307231 | 8690.672 | 0.900159 |
| 1000 | 32.182 | 0 | 23.868 | 12 | 7692.721 | 16788.3 | 0.319141 | 9095.583 | 0.942098 |
| 1000 | 32.182 | 0 | 23.868 | 14 | 8256.202 | 17662.81 | 0.328169 | 9406.605 | 0.974313 |
| 1000 | 32.182 | 0 | 23.868 | 16 | 8753.449 | 18406.39 | 0.335247 | 9652.936 | 0.999828 |
| 1000 | 32.182 | 0 | 23.868 | 18 | 9199.247 | 19051.72 | 0.340933 | 9852.471 | 1.020495 |
| 1000 | 32.182 | 0 | 23.868 | 20 | 9603.793 | 19620.72 | 0.345589 | 10016.93 | 1.037529 |
| 1000 | 32.182 | 0 | 23.868 | 22 | 9974.53 | 20128.82 | 0.349456 | 10154.29 | 1.051756 |
| 1000 | 32.182 | 0 | 23.868 | 24 | 10316.99 | 20587.24 | 0.352706 | 10270.25 | 1.063767 |
| | | | | | | | | | |
| 1200 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 6245.21 | 0.149404 | 4329.318 | 0.512067 |
| 1200 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 11883.02 | 0.254465 | 7844.497 | 0.927838 |
| 1200 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 14923.43 | 0.300732 | 9538.981 | 1.128259 |
| 1200 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 16972.98 | 0.327979 | 10583.58 | 1.251813 |
| 1200 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 18503.92 | 0.346264 | 11305.11 | 1.337155 |
| 1200 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 19717.92 | 0.359491 | 11837.73 | 1.400152 |
| 1200 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 20719.18 | 0.369537 | 12248.4 | 1.448726 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1200 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 21568.29 | 0.377433 | 12574.98 | 1.487353 |
| 1200 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 22303.51 | 0.383796 | 12840.66 | 1.518778 |
| 1200 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 22950.45 | 0.389025 | 13060.63 | 1.544795 |
| 1200 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 23527.07 | 0.393385 | 13245.26 | 1.566633 |
| 1200 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 24046.46 | 0.397066 | 13401.94 | 1.585166 |
| | | | | | | | | | |
| 1400 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 7286.855 | 0.151471 | 5370.963 | 0.635271 |
| 1400 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 13863.86 | 0.259909 | 9825.336 | 1.162129 |
| 1400 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 17410.86 | 0.308674 | 12026.42 | 1.42247 |
| 1400 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 19801.95 | 0.337924 | 13412.54 | 1.58642 |
| 1400 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 21588 | 0.357895 | 14389.19 | 1.701937 |
| 1400 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 23004.32 | 0.37259 | 15124.12 | 1.788863 |
| 1400 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 24172.43 | 0.383943 | 15701.66 | 1.857173 |
| 1400 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 25163.05 | 0.393021 | 16169.74 | 1.912537 |
| 1400 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 26020.8 | 0.400468 | 16557.95 | 1.958455 |
| 1400 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 26775.55 | 0.406699 | 16885.73 | 1.997225 |
| 1400 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 27448.28 | 0.411994 | 17166.47 | 2.030429 |
| 1400 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 28054.23 | 0.416552 | 17409.71 | 2.0592 |
| | | | | | | | | | |
| 1600 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 8329.7 | 0.152926 | 6413.808 | 0.758618 |
| 1600 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 15845.31 | 0.263668 | 11806.78 | 1.396492 |
| 1600 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 19898.7 | 0.314135 | 14514.25 | 1.716728 |
| 1600 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 22631.2 | 0.34474 | 16241.8 | 1.92106 |
| 1600 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 24672.31 | 0.36585 | 17473.5 | 2.066745 |
| 1600 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 26290.89 | 0.381532 | 18410.69 | 2.177595 |
| 1600 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 27625.83 | 0.393761 | 19155.06 | 2.265637 |
| 1600 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 28757.95 | 0.403629 | 19764.63 | 2.337737 |
| 1600 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 29738.2 | 0.411799 | 20275.35 | 2.398145 |
| 1600 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 30600.76 | 0.418696 | 20710.94 | 2.449665 |
| 1600 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 31369.57 | 0.424611 | 21087.76 | 2.494235 |
| 1600 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 32062.07 | 0.42975 | 21417.55 | 2.533242 |
| | | | | | | | | | |
| 1800 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 9374.589 | 0.15403 | 7458.697 | 0.882206 |
| 1800 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 17827.88 | 0.266433 | 13789.35 | 1.630988 |
| 1800 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 22387.3 | 0.318127 | 17002.85 | 2.011077 |
| 1800 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 25461.03 | 0.34971 | 19071.63 | 2.25577 |
| 1800 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 27757.08 | 0.371638 | 20558.27 | 2.431608 |
| 1800 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 29577.84 | 0.388028 | 21697.64 | 2.566371 |
| 1800 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 31079.56 | 0.400884 | 22608.78 | 2.67414 |
| 1800 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 32353.11 | 0.411318 | 23359.79 | 2.762969 |
| 1800 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 33455.84 | 0.420003 | 23992.99 | 2.837863 |
| 1800 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 34426.17 | 0.427375 | 24536.35 | 2.902131 |
| 1800 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 35291.05 | 0.433731 | 25009.24 | 2.958063 |

| TIT | a | k1 | bv | rp | Wc | Wt | eth | Wn | Ws |
|---|---|---|---|---|---|---|---|---|---|
| 1800 | 28.182 | 0 | 19.868 | 24 | 10644.52 | 36070.09 | 0.439282 | 25425.57 | 3.007306 |
| | | | | | | | | | |
| 2000 | 28.182 | 0 | 19.868 | 2 | 1915.892 | 10408.22 | 0.154686 | 8492.326 | 1.004462 |
| 2000 | 28.182 | 0 | 19.868 | 4 | 4038.526 | 19812.21 | 0.268566 | 15773.69 | 1.865693 |
| 2000 | 28.182 | 0 | 19.868 | 6 | 5384.448 | 24877.15 | 0.321183 | 19492.7 | 2.305574 |
| 2000 | 28.182 | 0 | 19.868 | 8 | 6389.404 | 28291.83 | 0.353501 | 21902.43 | 2.590593 |
| 2000 | 28.182 | 0 | 19.868 | 10 | 7198.81 | 30842.64 | 0.376045 | 23643.83 | 2.796564 |
| 2000 | 28.182 | 0 | 19.868 | 12 | 7880.199 | 32865.47 | 0.392967 | 24985.27 | 2.955228 |
| 2000 | 28.182 | 0 | 19.868 | 14 | 8470.777 | 34533.86 | 0.406294 | 26063.09 | 3.082711 |
| 2000 | 28.182 | 0 | 19.868 | 16 | 8993.317 | 35948.78 | 0.417151 | 26955.47 | 3.18826 |
| 2000 | 28.182 | 0 | 19.868 | 18 | 9462.846 | 37173.94 | 0.426221 | 27711.09 | 3.277635 |
| 2000 | 28.182 | 0 | 19.868 | 20 | 9889.819 | 38252 | 0.433948 | 28362.18 | 3.354644 |
| 2000 | 28.182 | 0 | 19.868 | 22 | 10281.81 | 39212.91 | 0.440634 | 28931.09 | 3.421935 |
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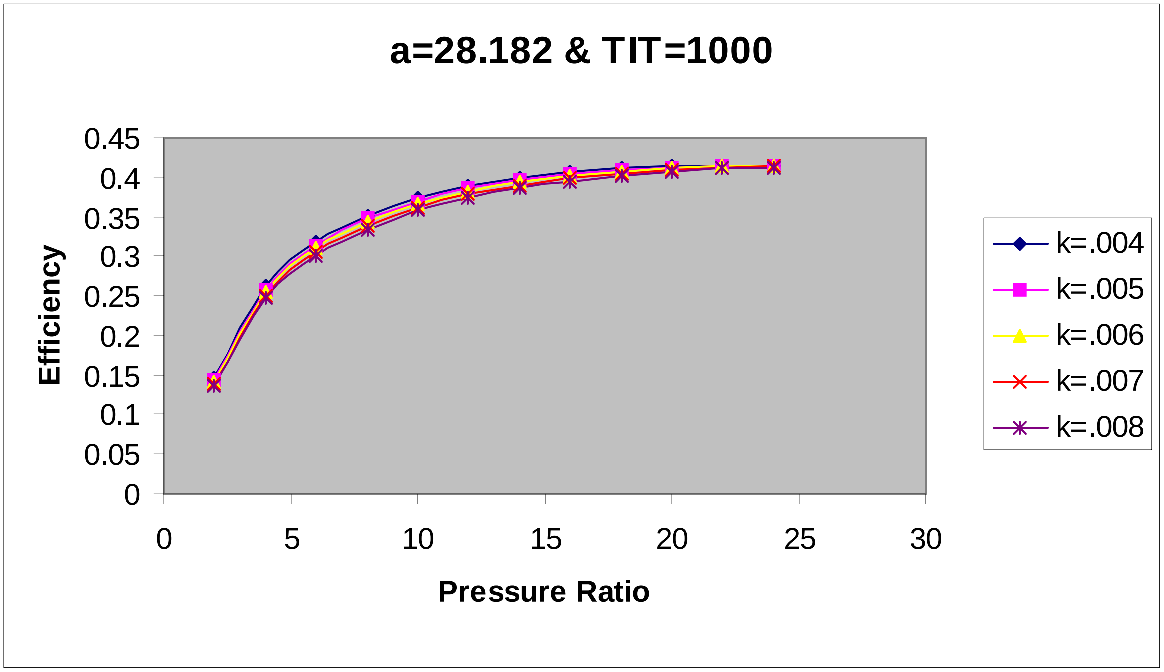


**Fig 3.1.1** Variation of Efficiency of gas turbine Vs Pressure ratio

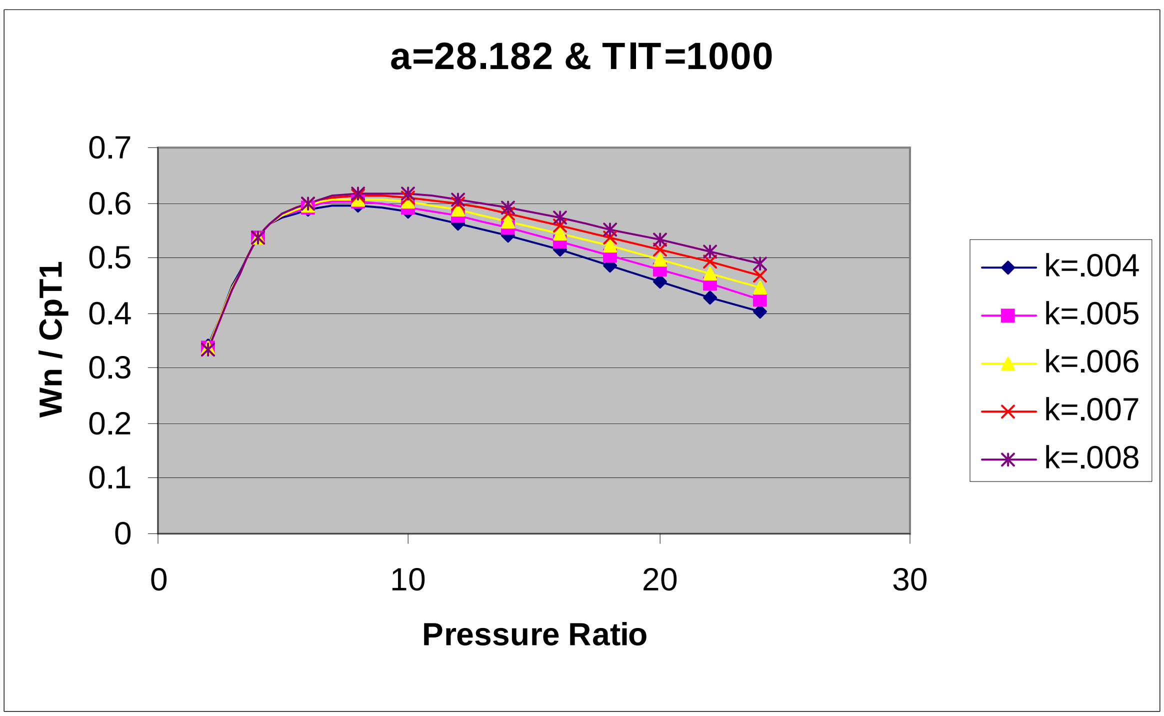


**Fig 3.1.2** Variation of $W_n/C_pT_1$ Vs Pressure ratio

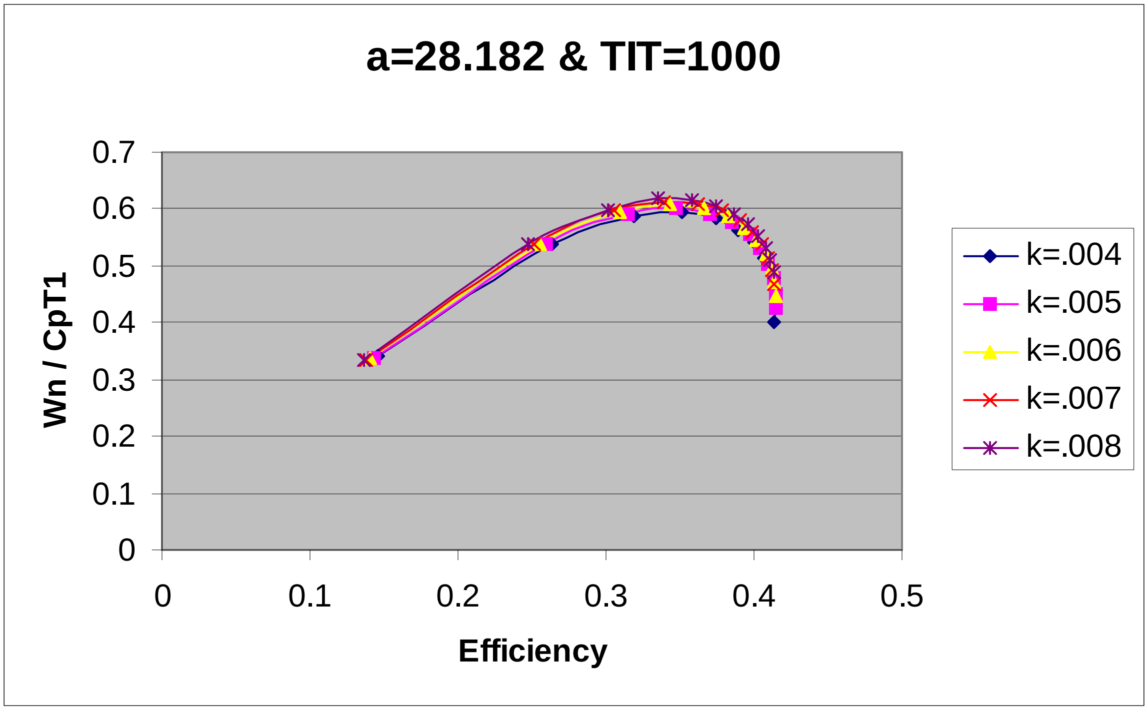


**Fig 3.1.3** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine

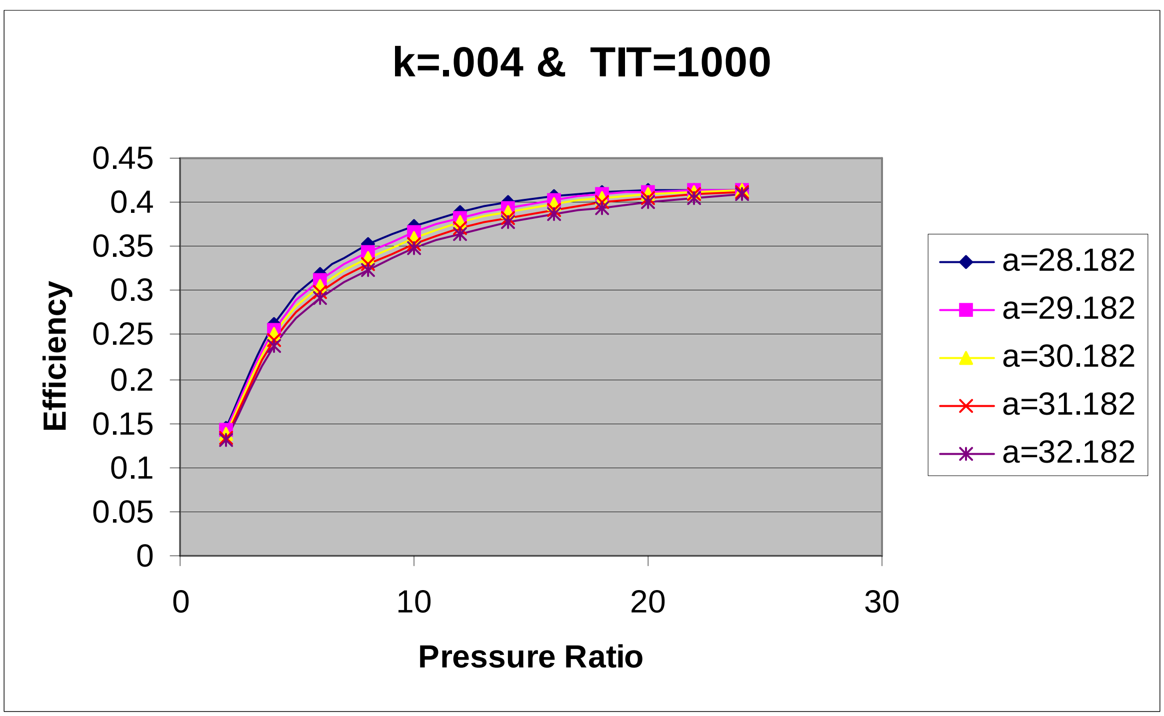


**Fig 3.1.4** Variation of Efficiency of gas turbine Vs Pressure ratio

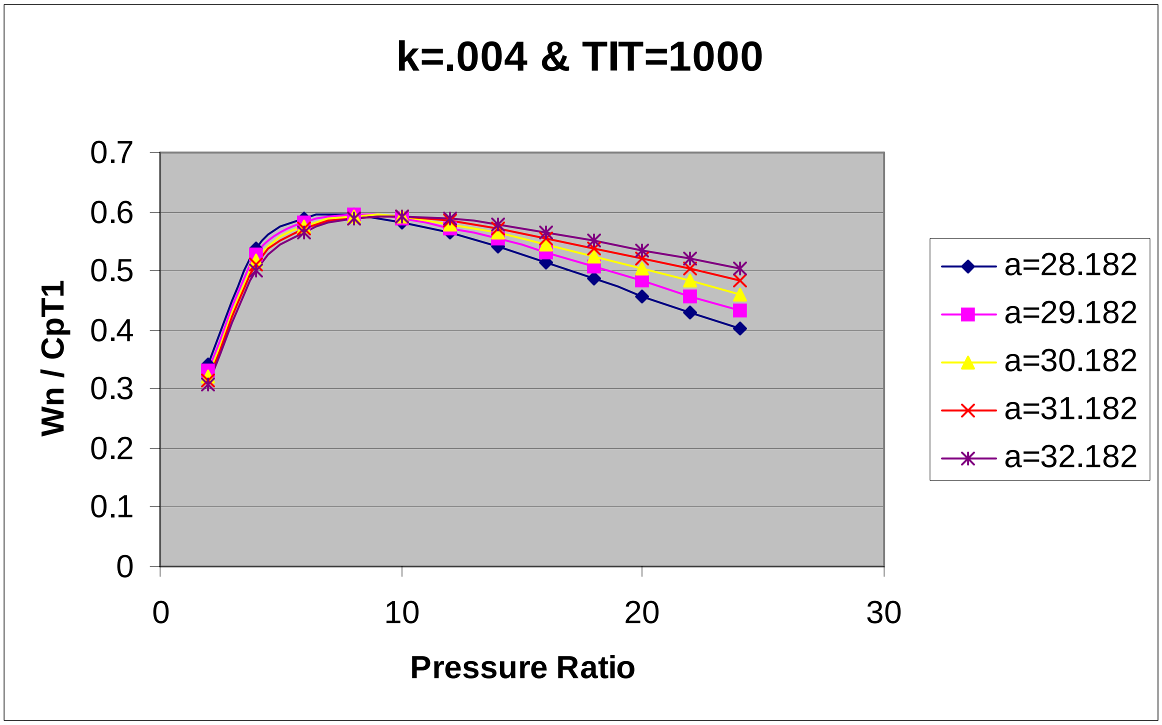


**Fig 3.1.5** Variation of $W_n/C_pT_1$ Vs Pressure ratio

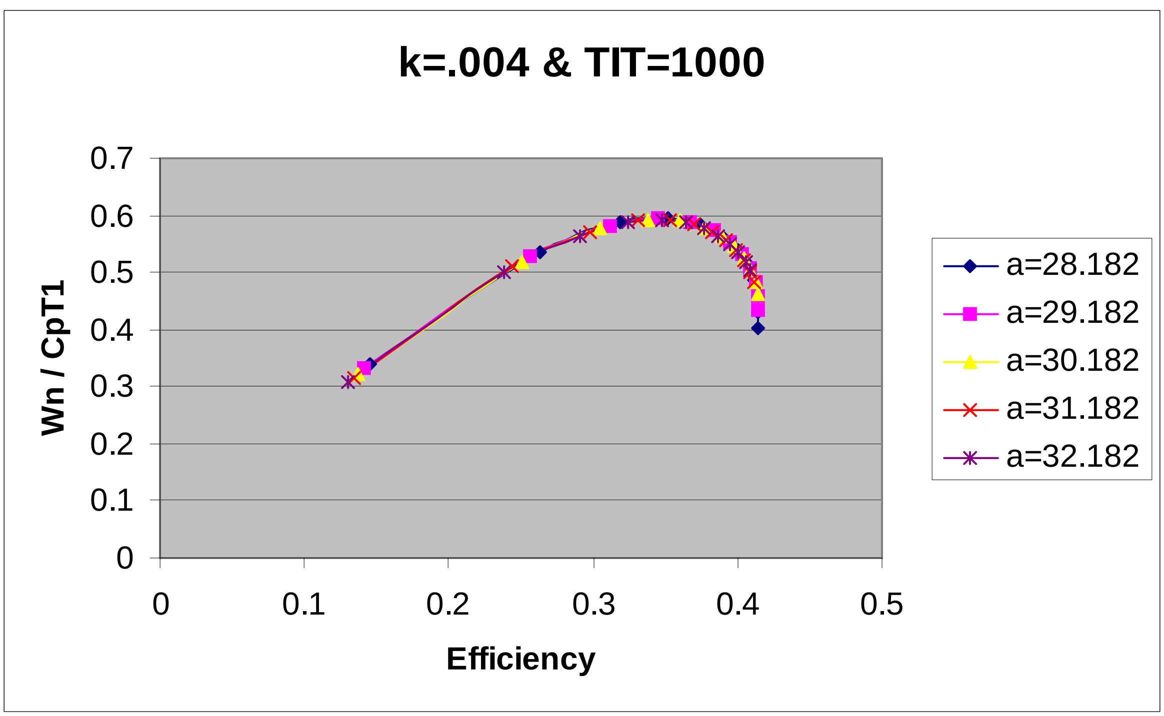


**Fig 3.1.6** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine

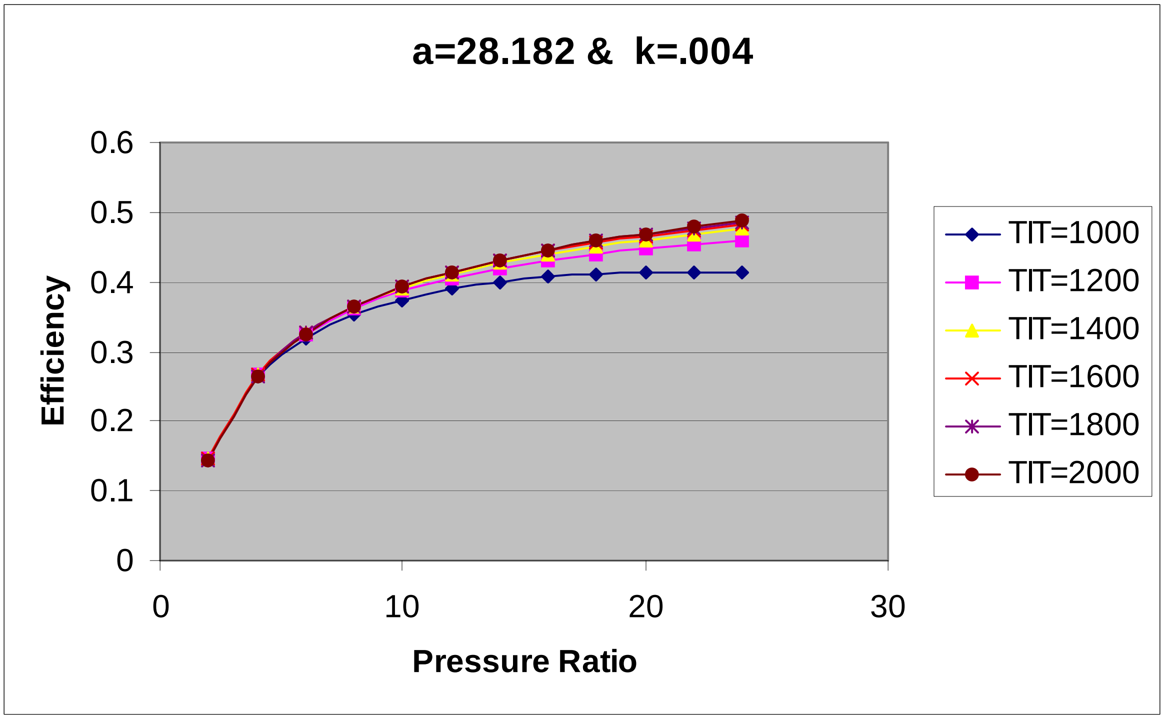


**Fig 3.1.7** Variation of Efficiency of gas turbine Vs Pressure ratio

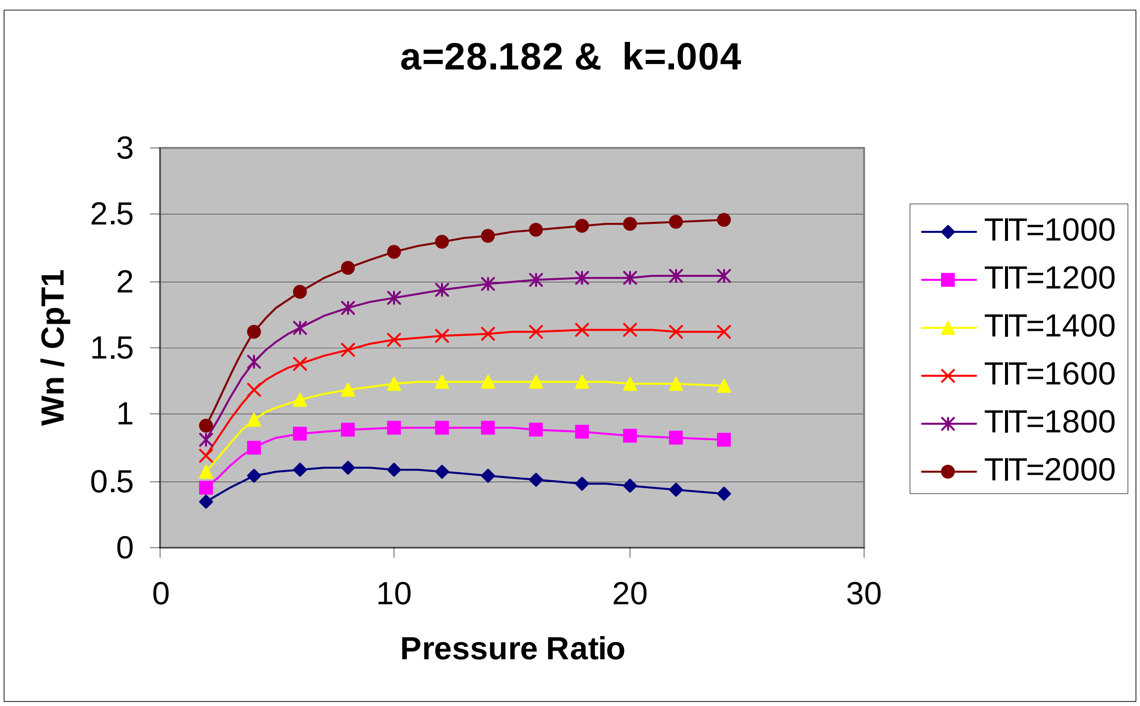


**Fig 3.1.8** Variation of $W_n/C_pT_1$ Vs Pressure ratio

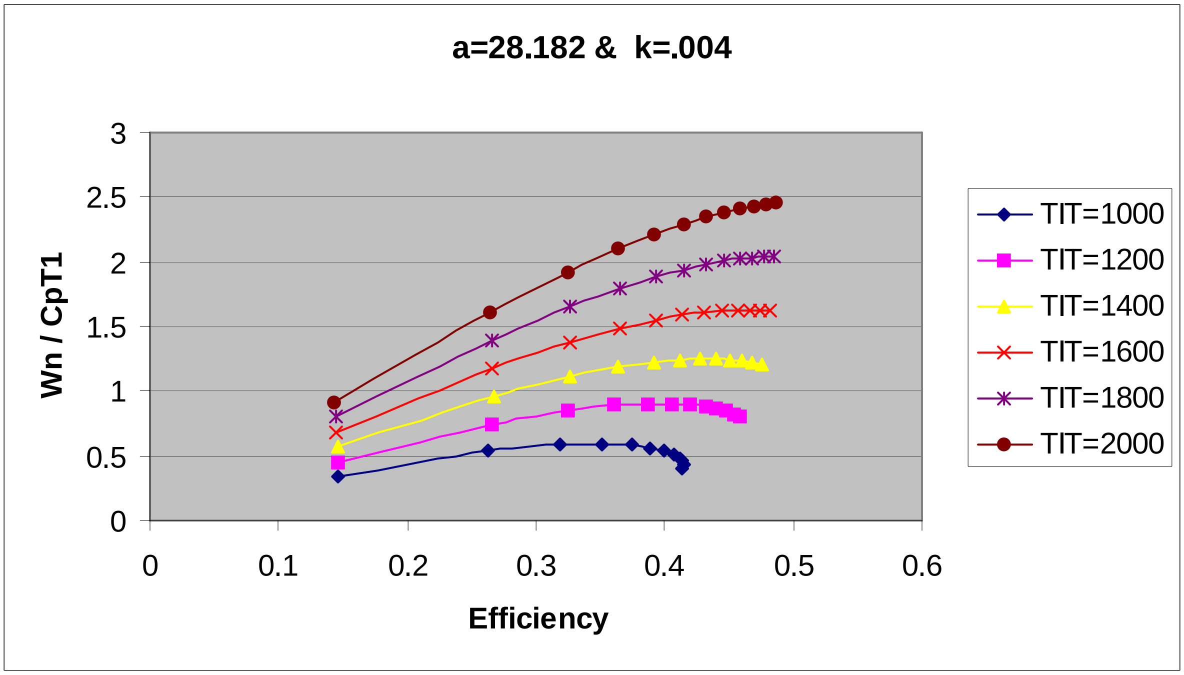


**Fig 3.1.9** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine

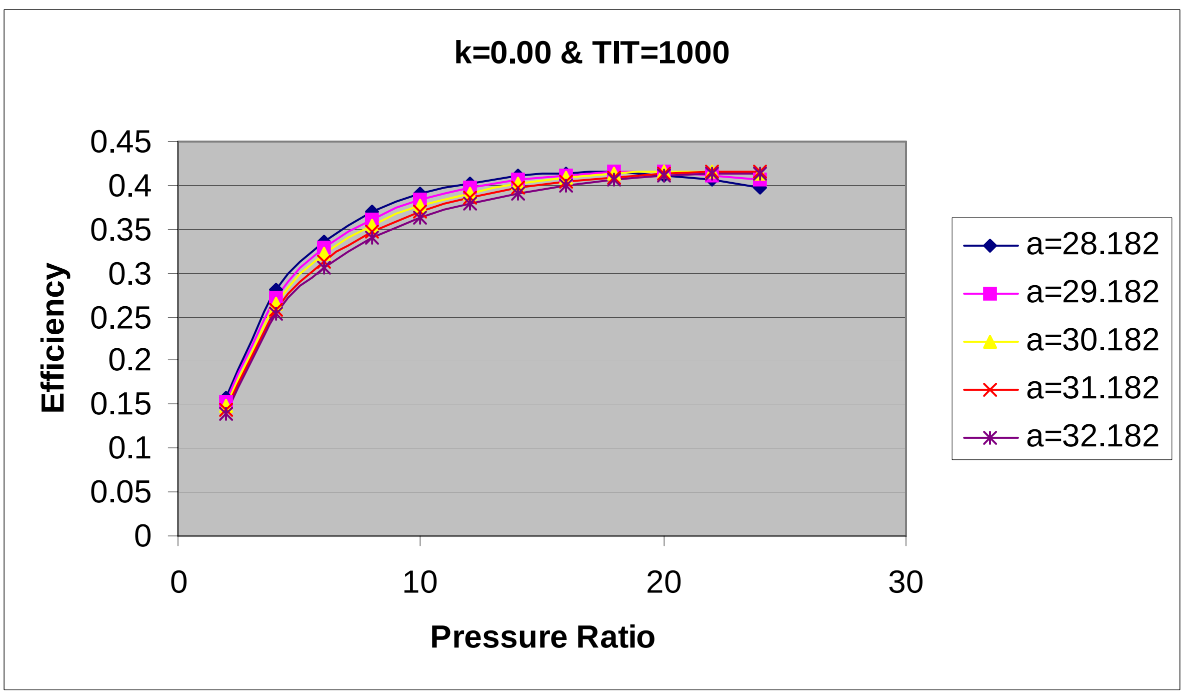


**Fig 3.1.10** Variation of Efficiency of gas turbine Vs Pressure ratio

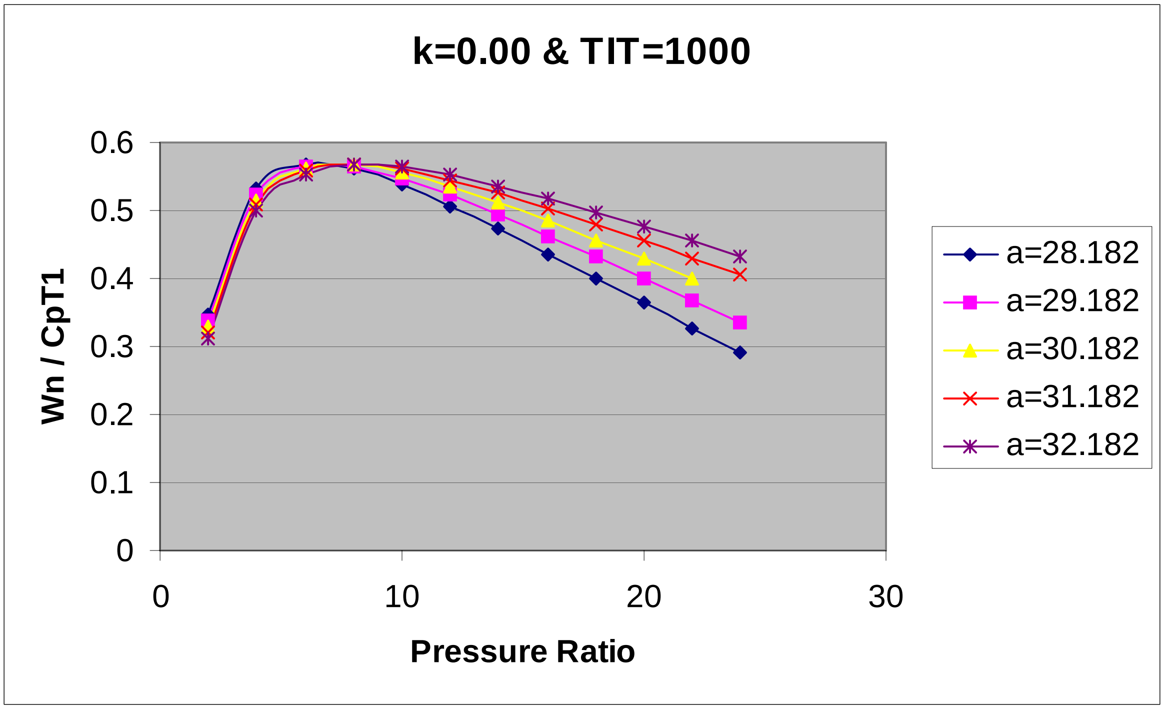


**Fig 3.1.11** Variation of $W_n/C_pT_1$ Vs Pressure ratio

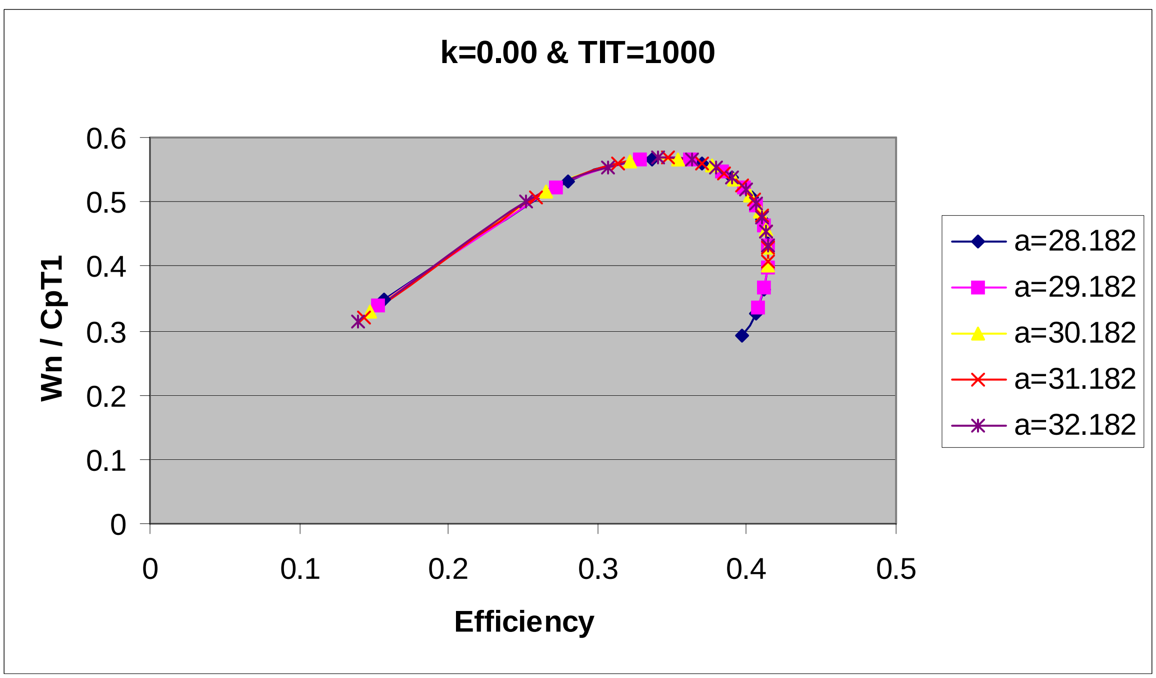


**Fig 3.1.12** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine

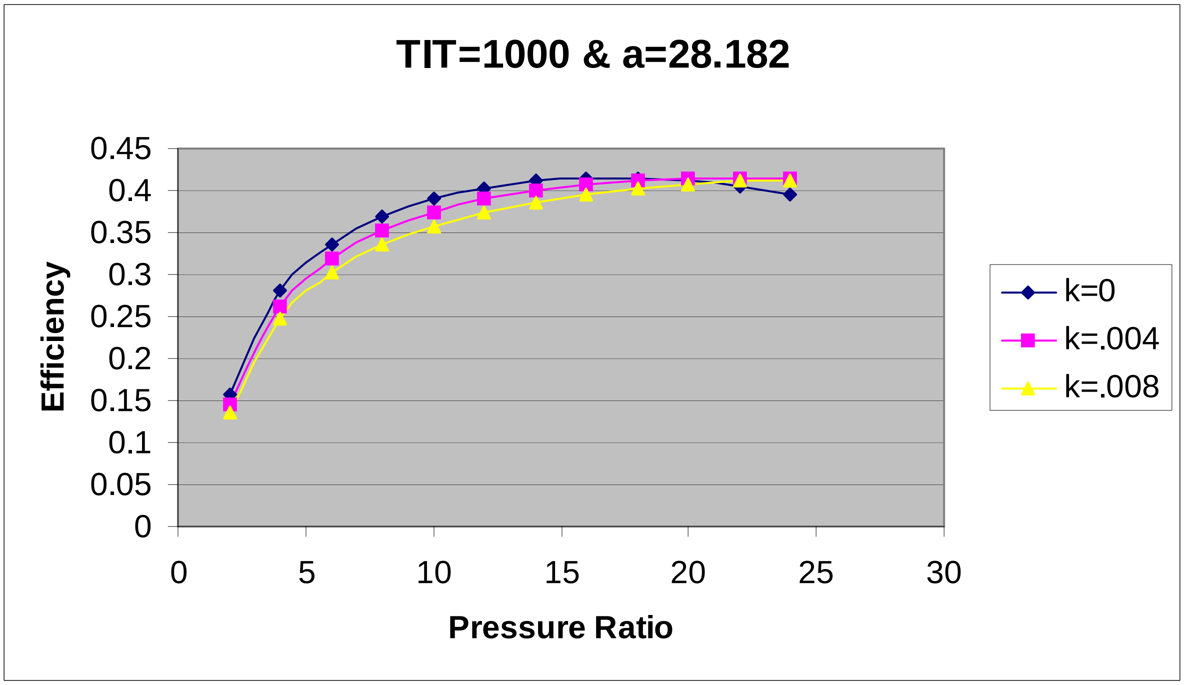


**Fig 3.1.13** Variation of Efficiency of gas turbine Vs Pressure ratio

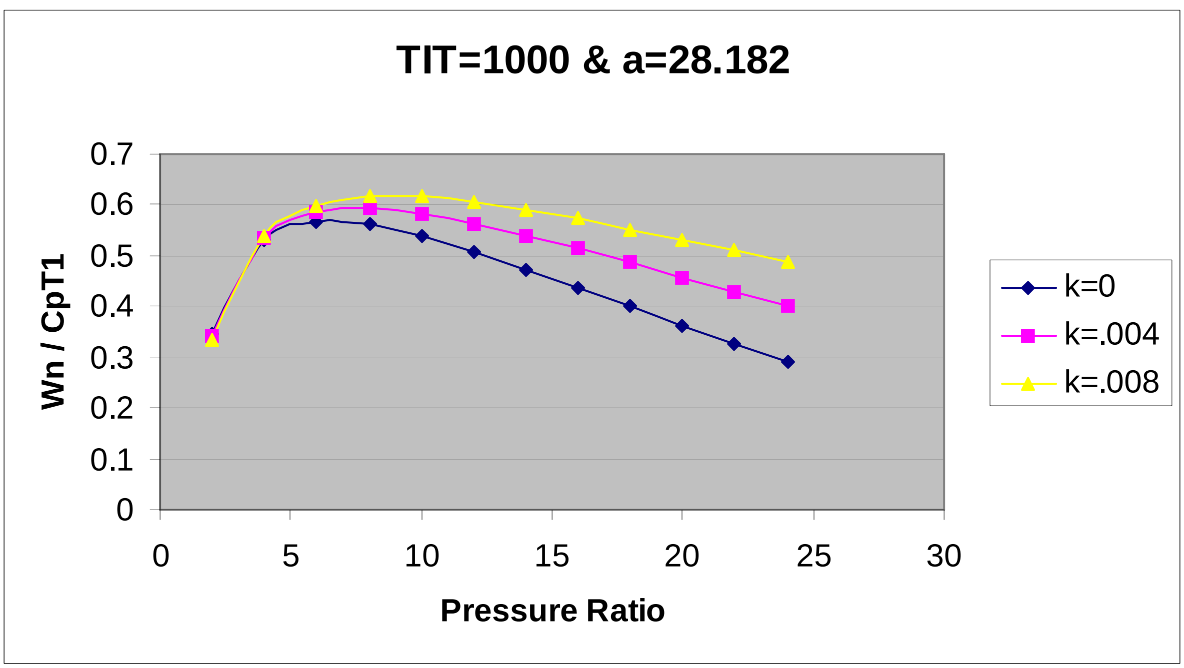


**Fig 3.1.14** Variation of $W_n/C_pT_1$ Vs Pressure ratio

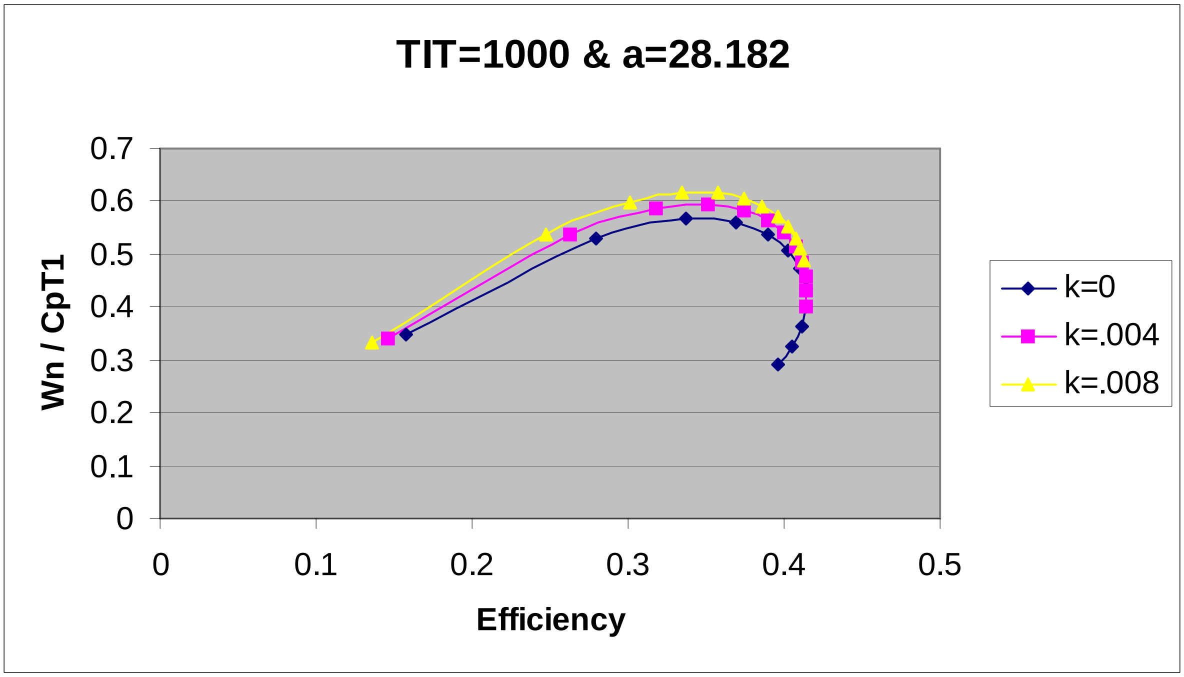


**Fig 3.1.15** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine

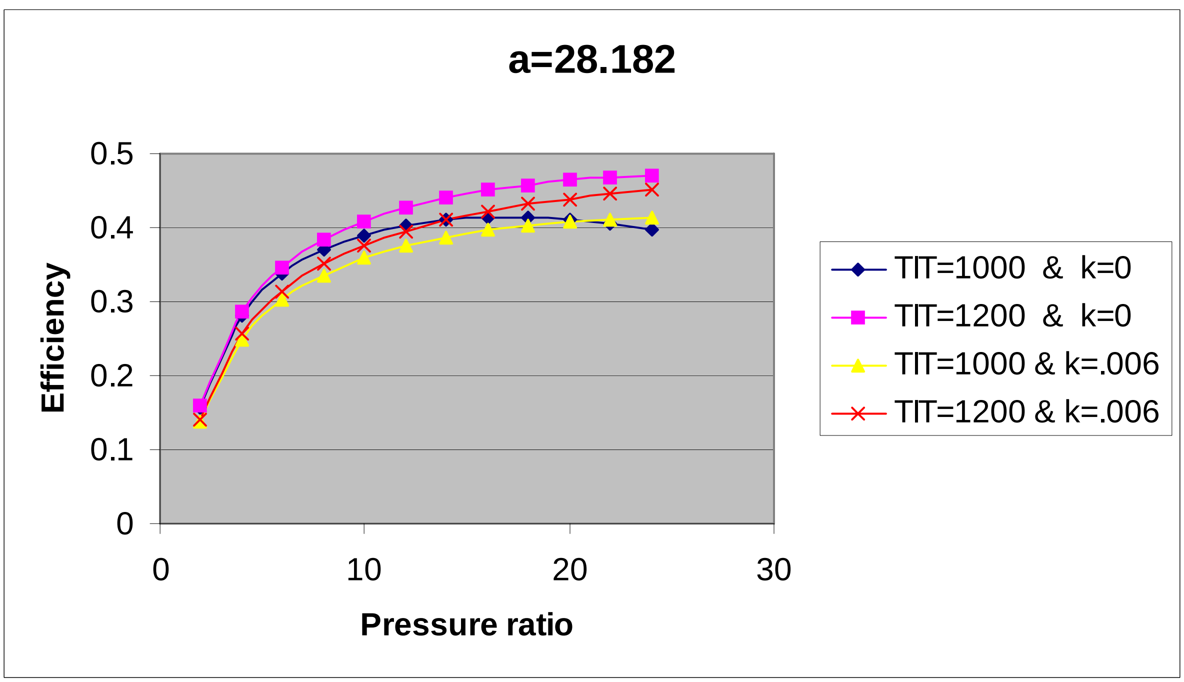


**Fig 3.1.16** Variation of Efficiency of gas turbine Vs Pressure ratio

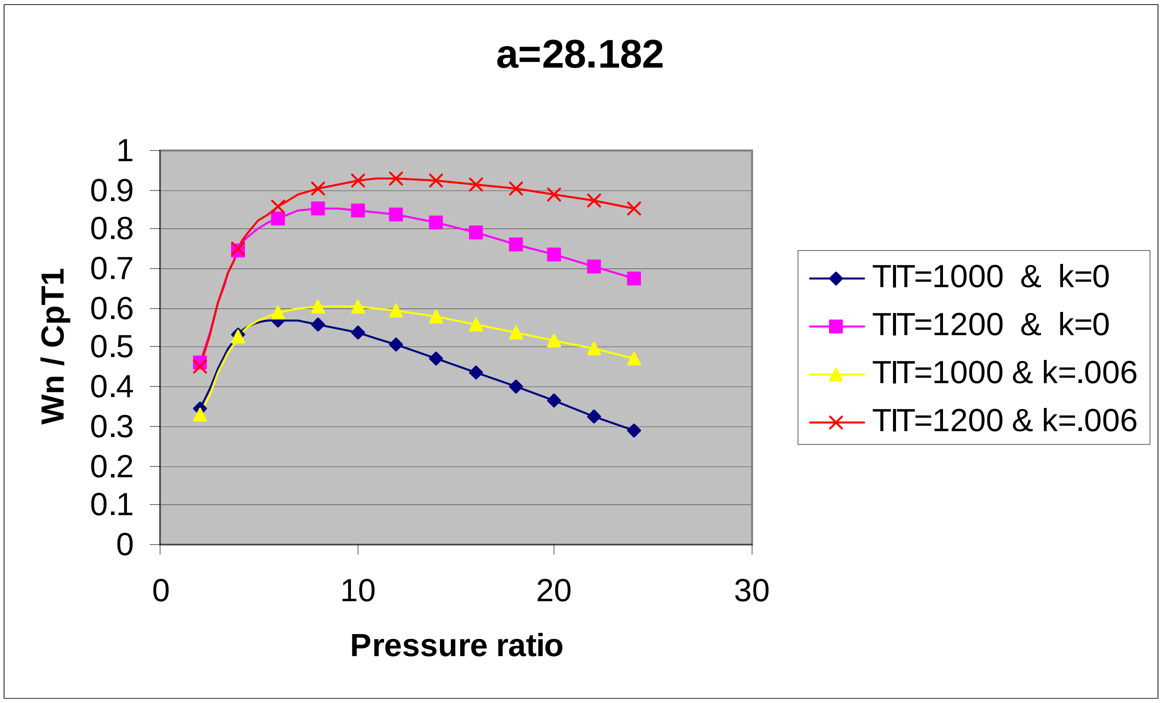


**Fig 3.1.17** Variation of $W_n/C_pT_1$ Vs Pressure ratio

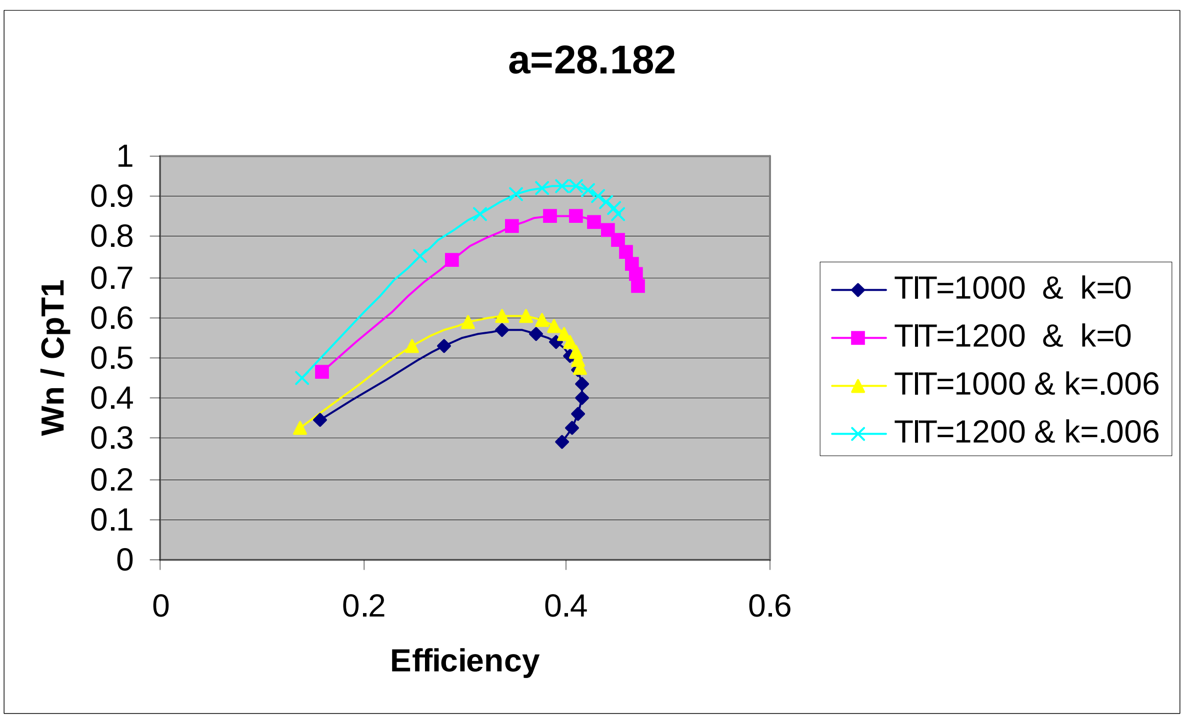


**Fig 3.1.18** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine

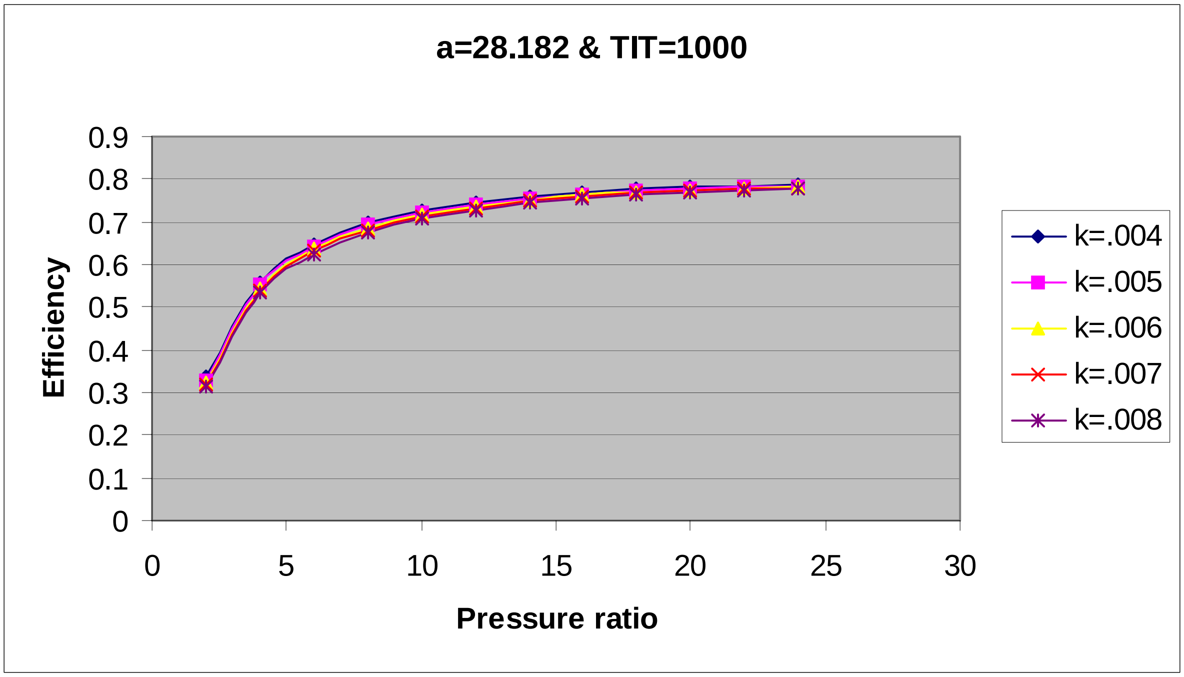


**Fig 3.2.1** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler

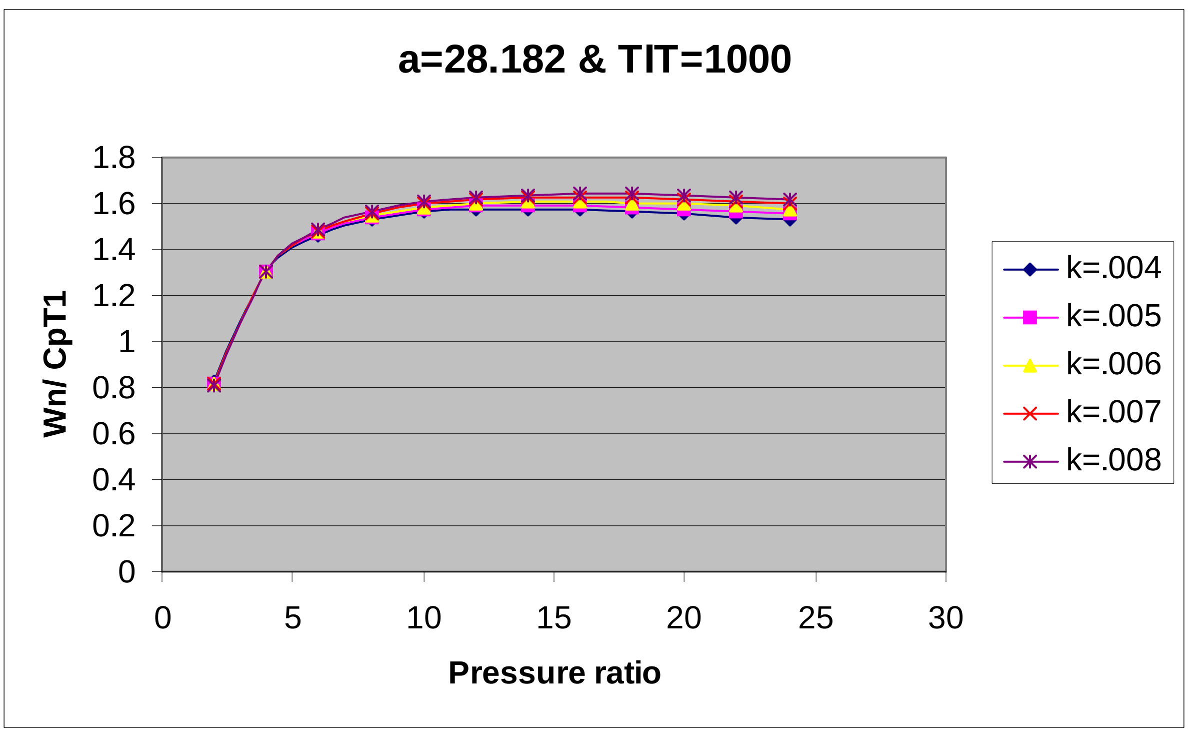


**Fig 3.2.2** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler

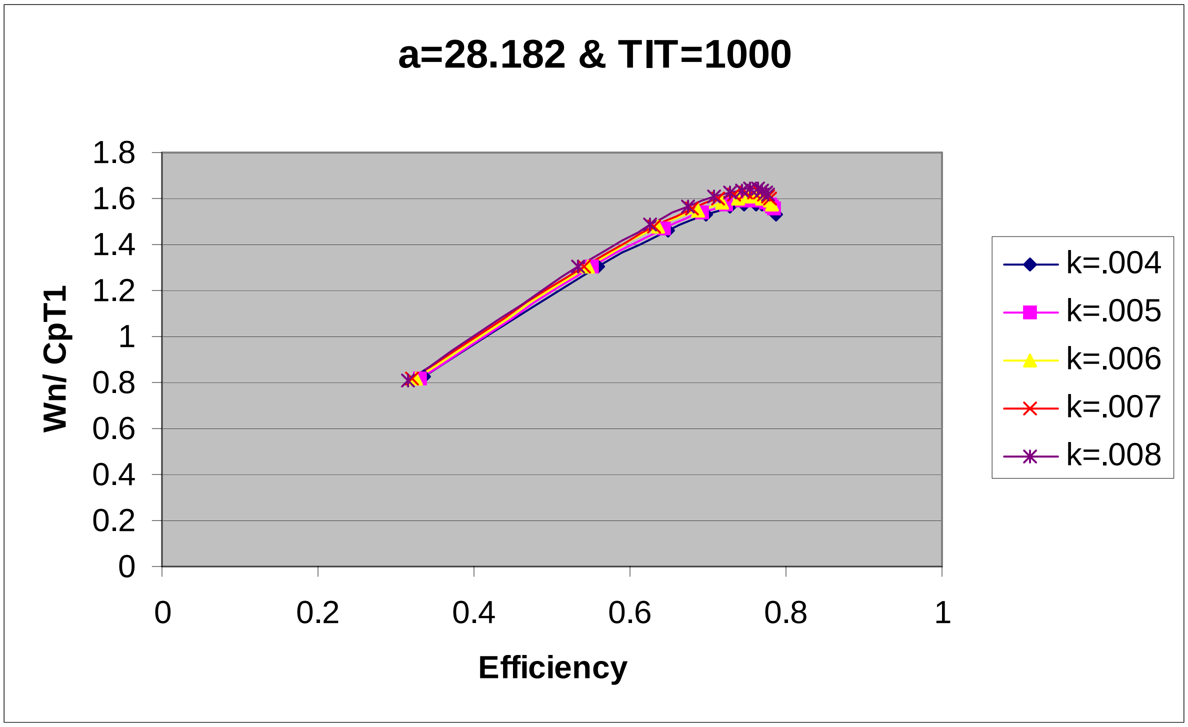


**Fig 3.2.3** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler

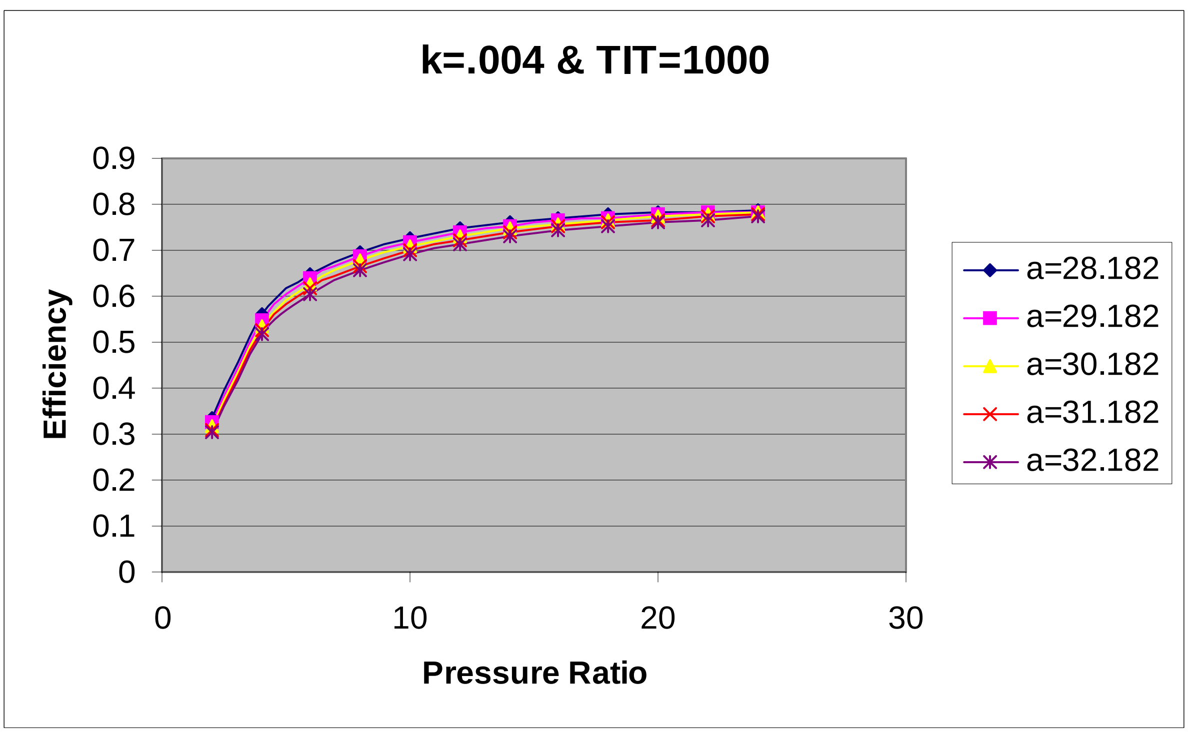


**Fig 3.2.4** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler

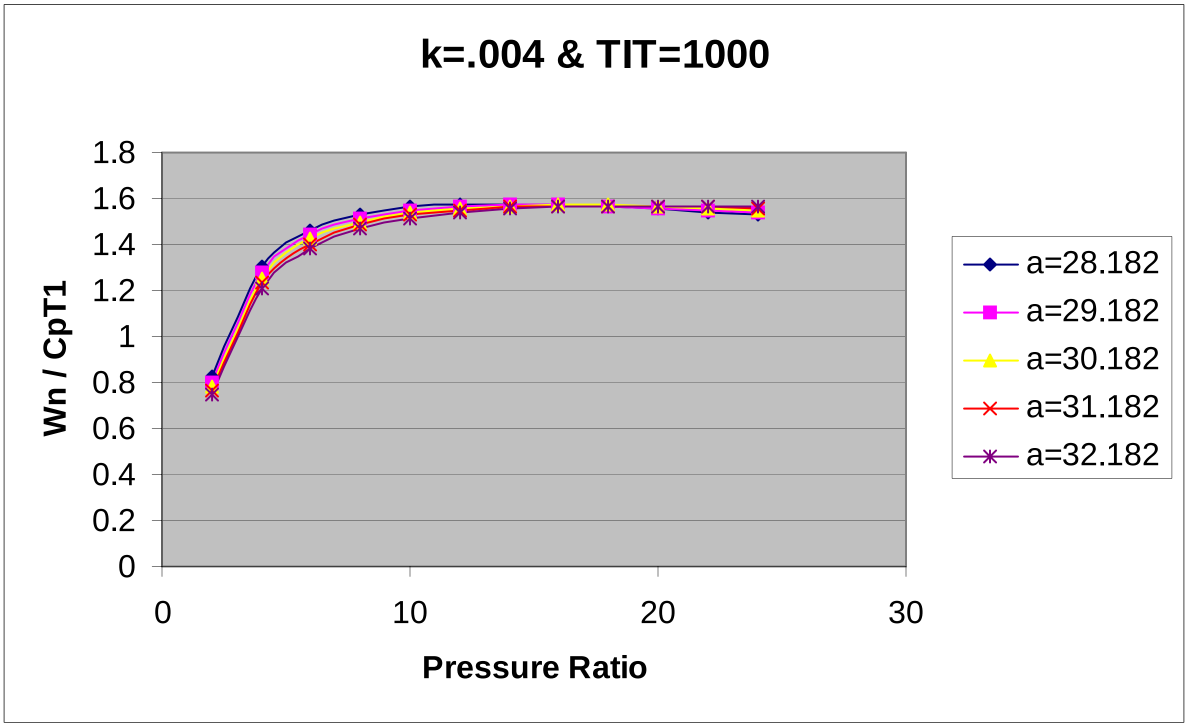


**Fig 3.2.5** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler

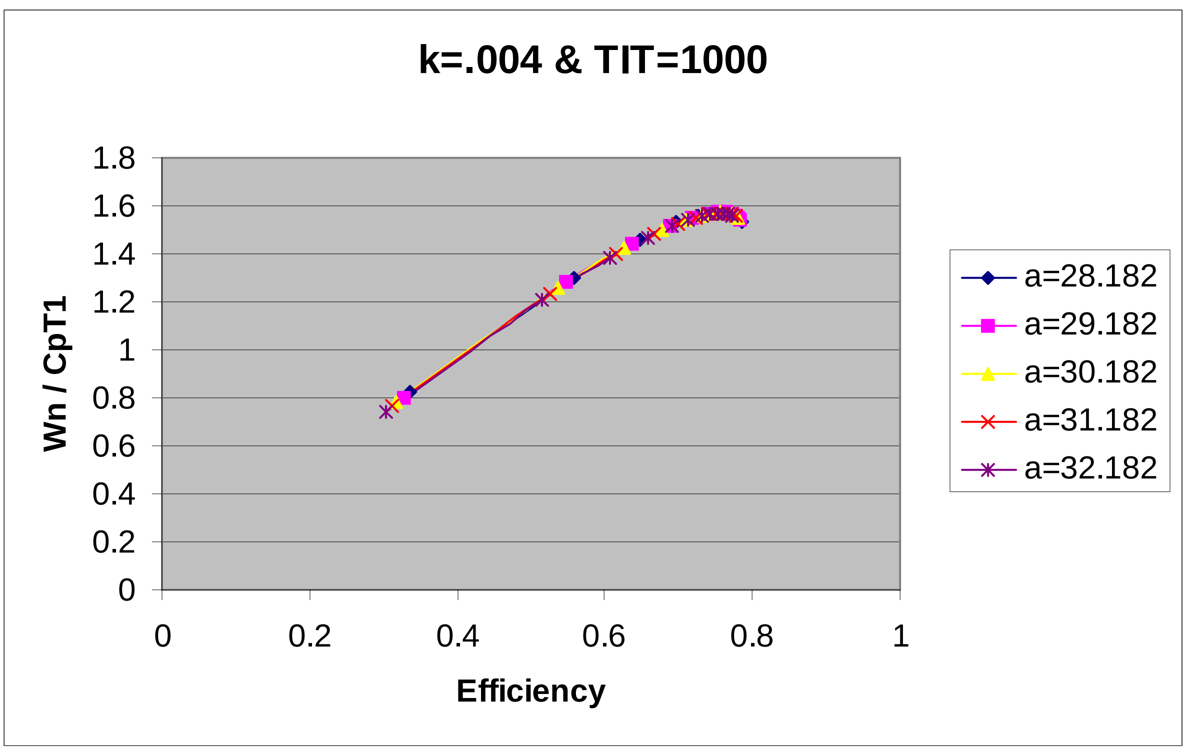


**Fig 3.2.6** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler

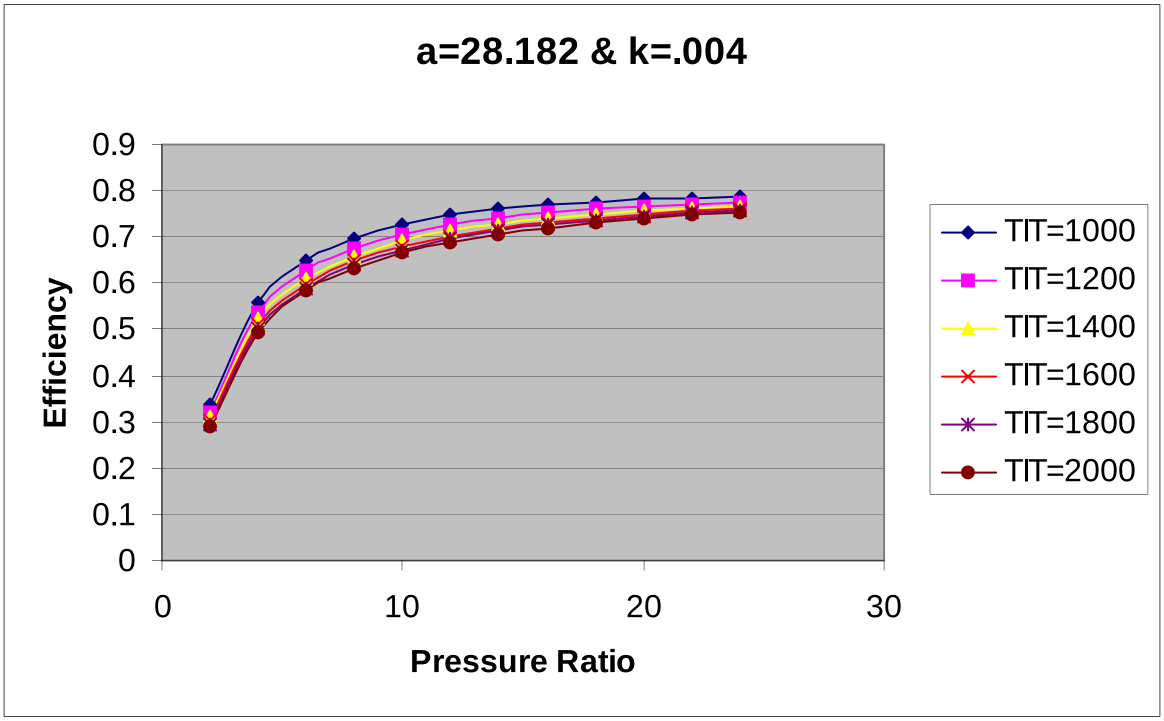


**Fig 3.2.7** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler

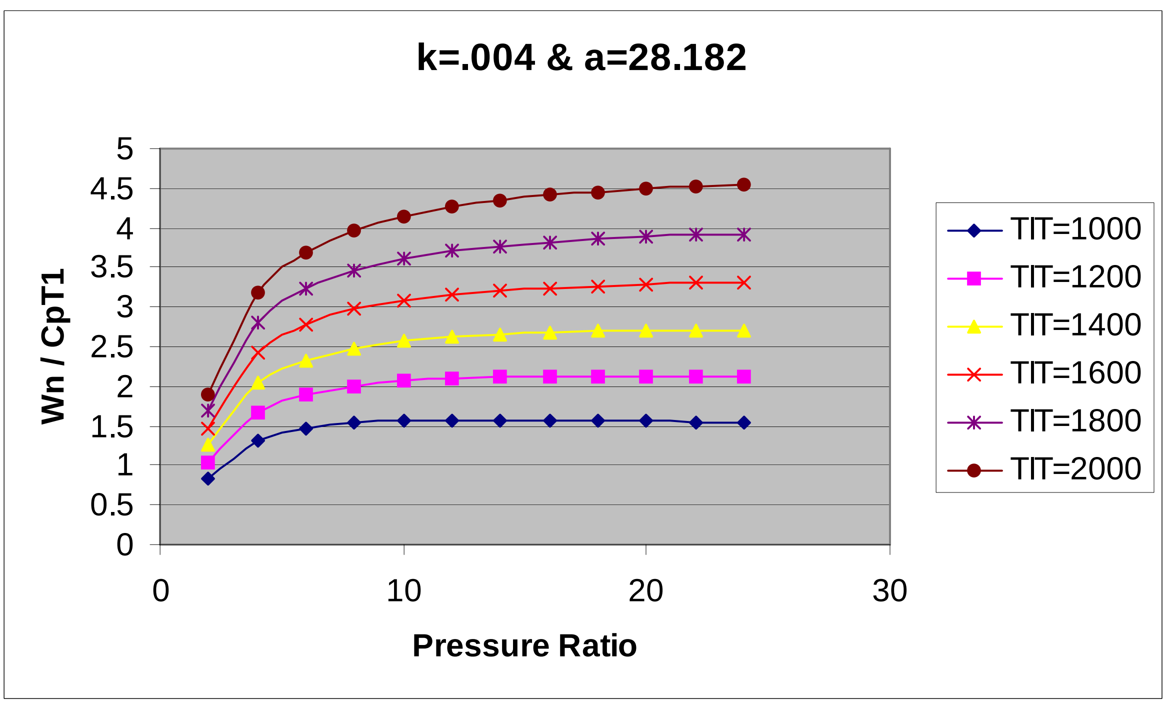


**Fig 3.2.8** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler

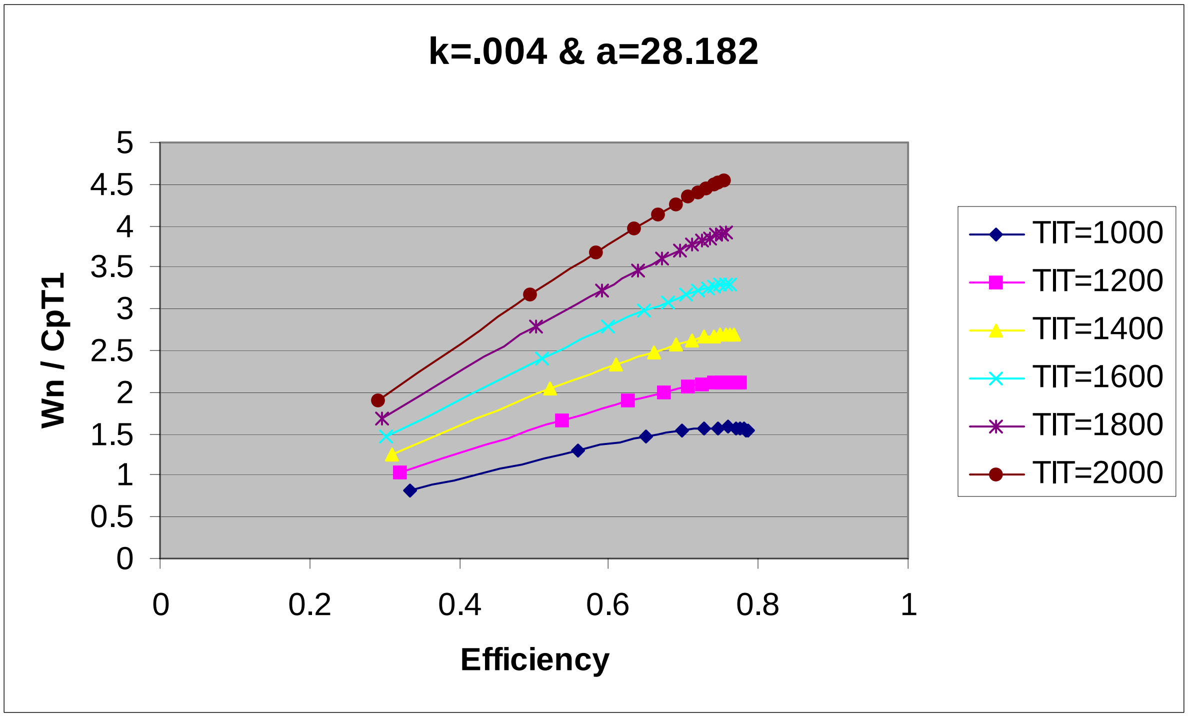


**Fig 3.2.9** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler

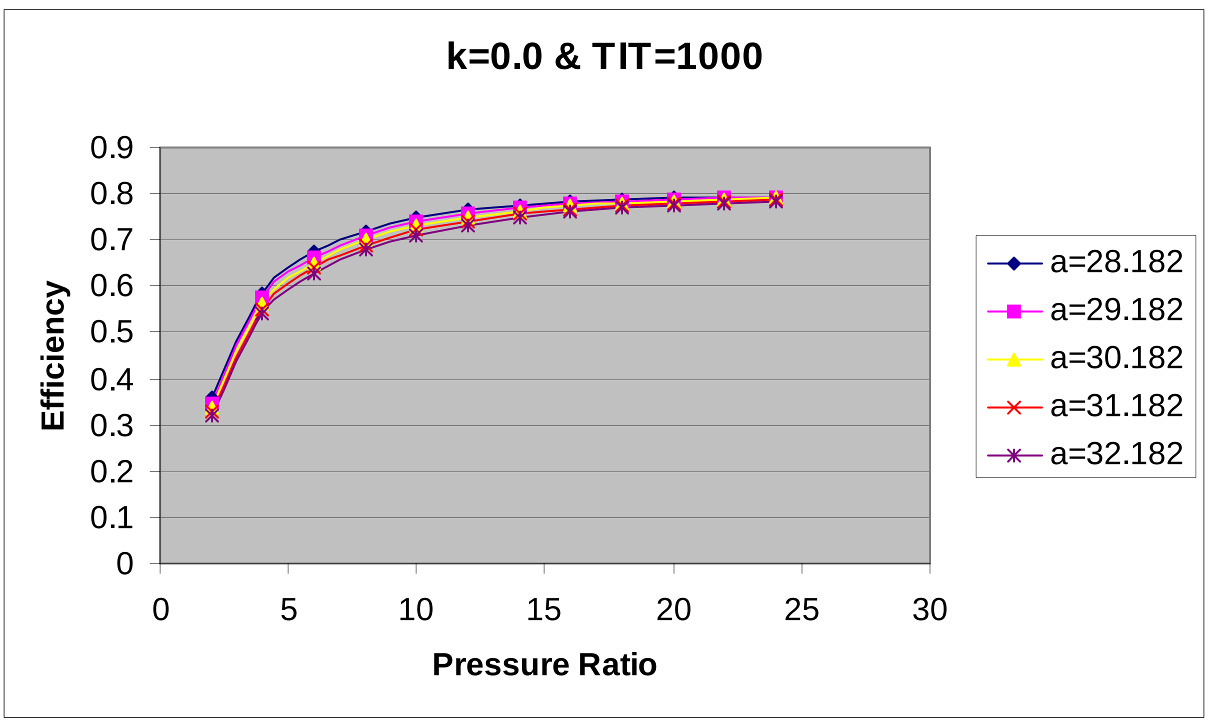


**Fig 3.2.10** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler

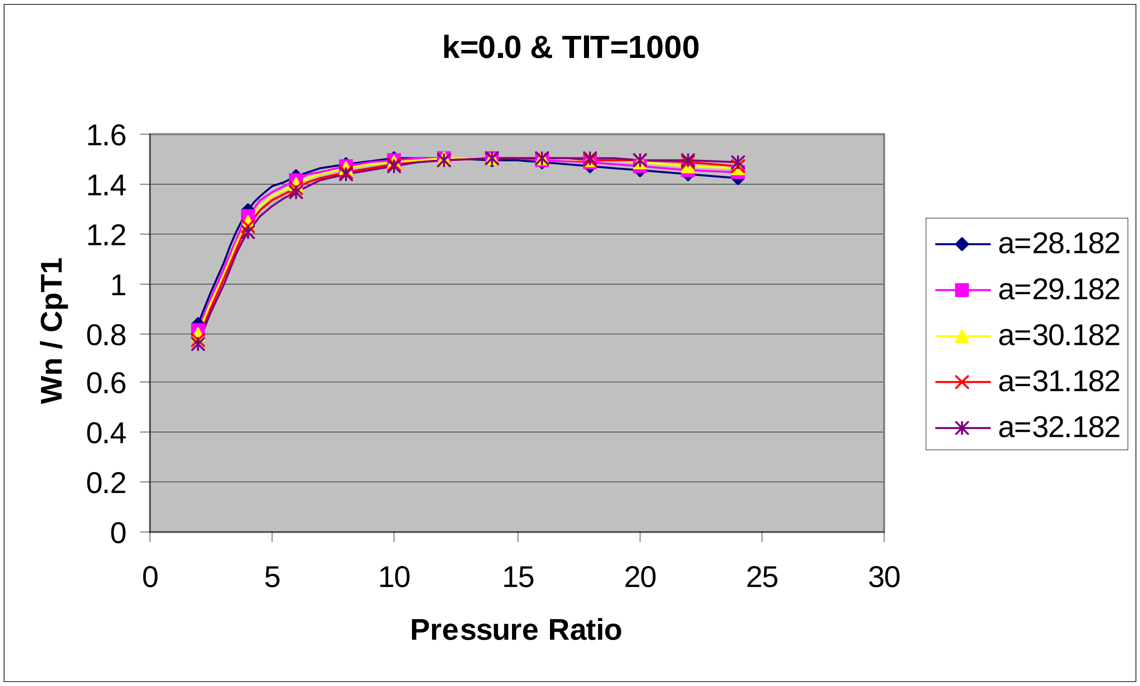


**Fig 3.2.11** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler

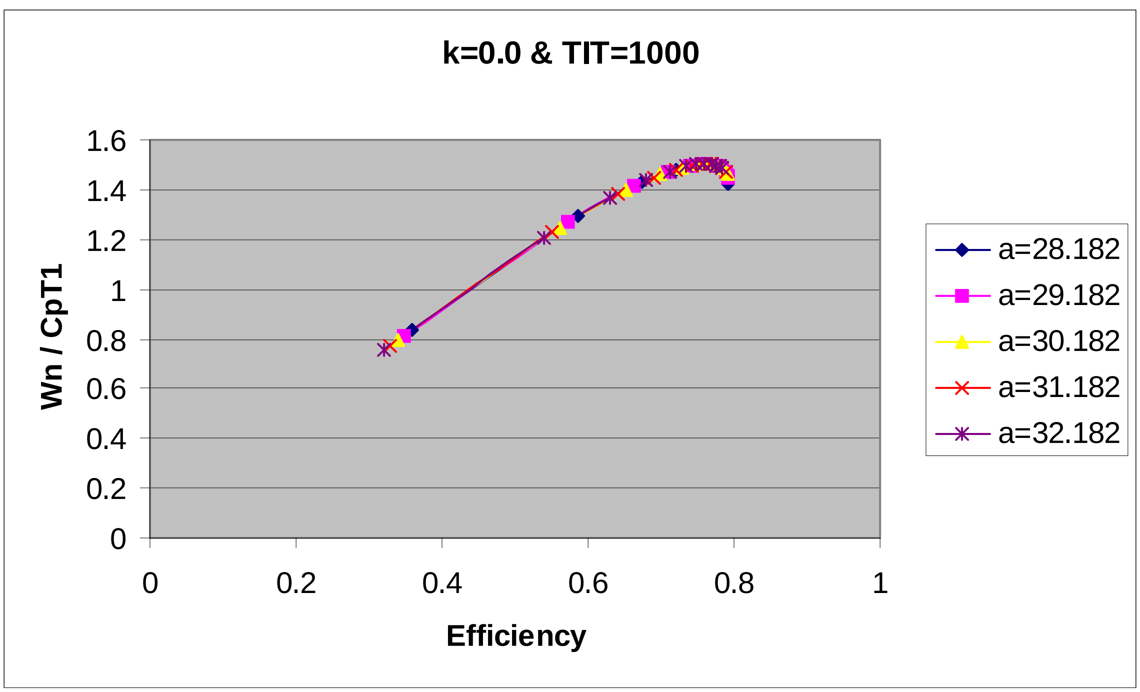


**Fig 3.2.12** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler

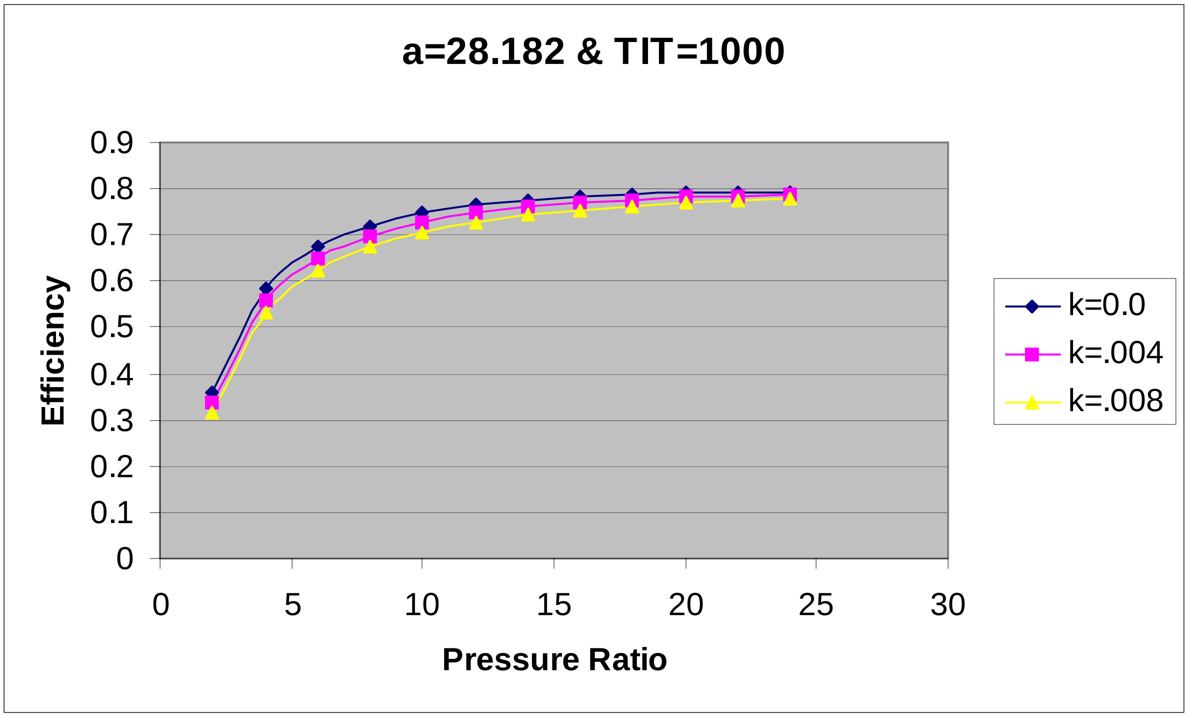


**Fig 3.2.13** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler

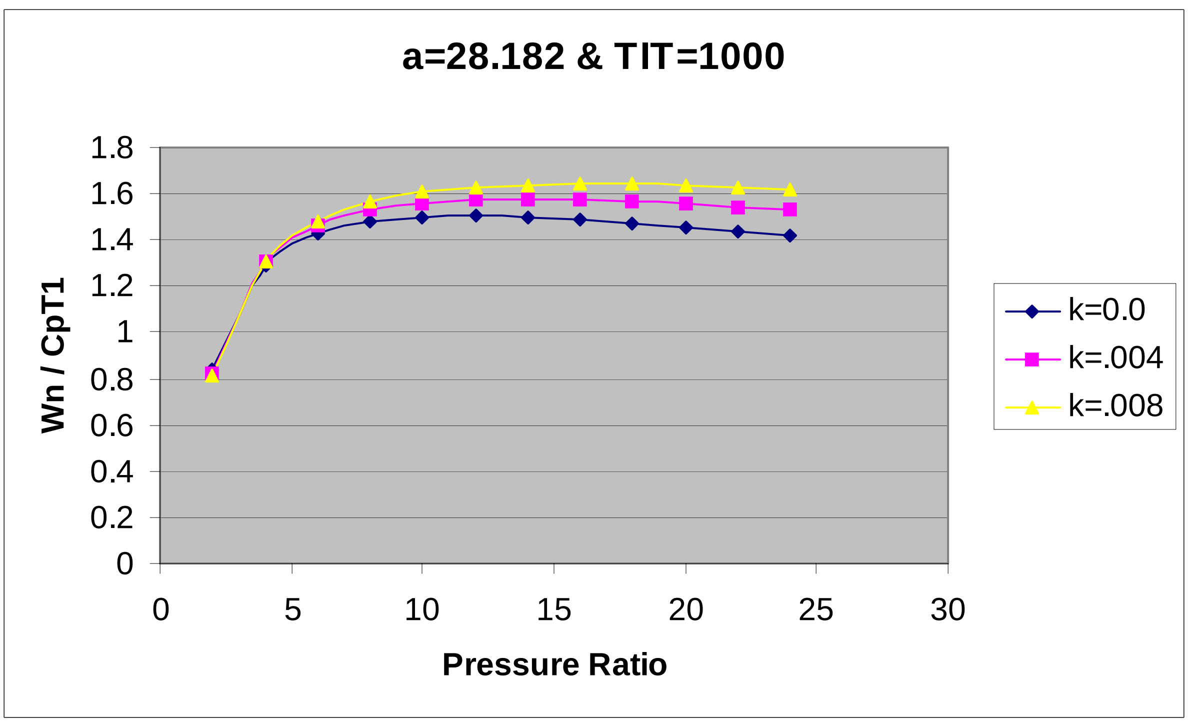


**Fig 3.2.14** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler

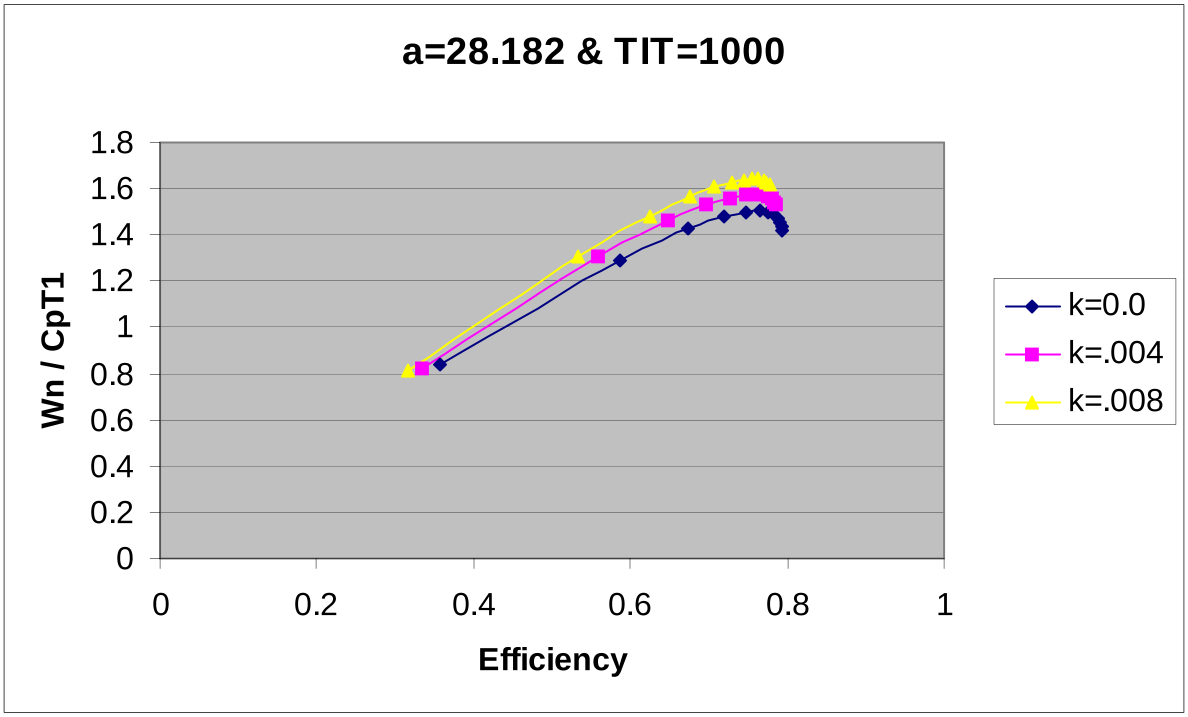


**Fig 3.2.15** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler

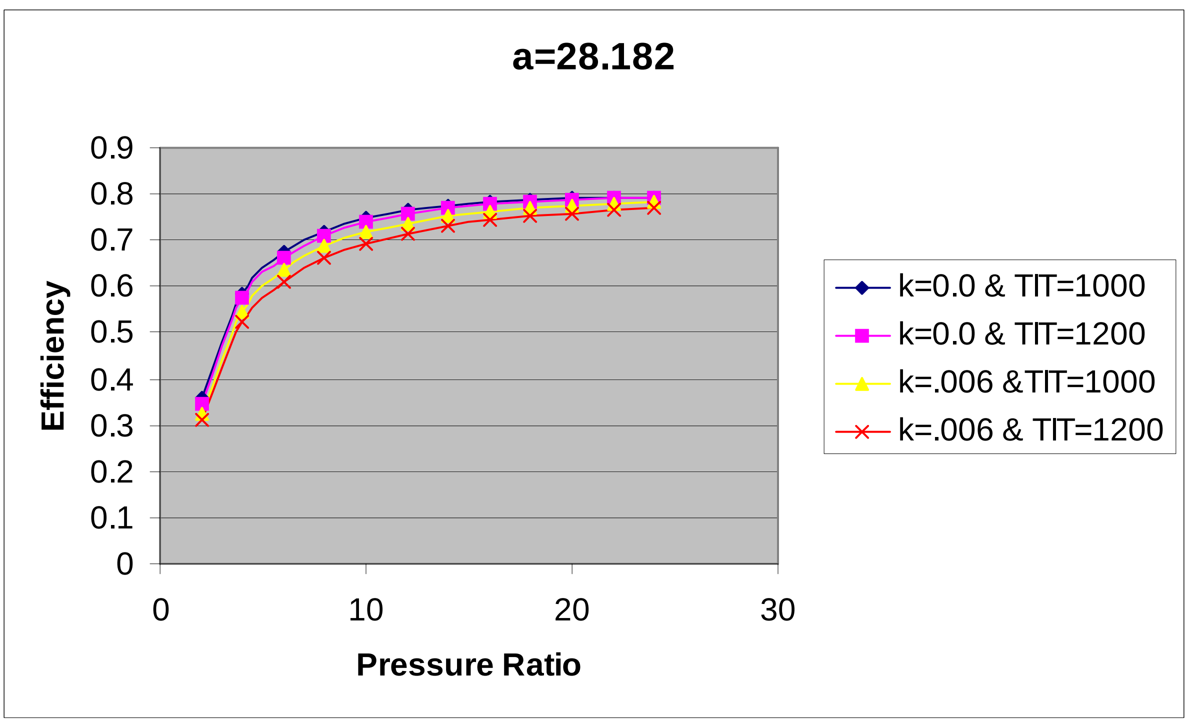


**Fig 3.2.16** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler

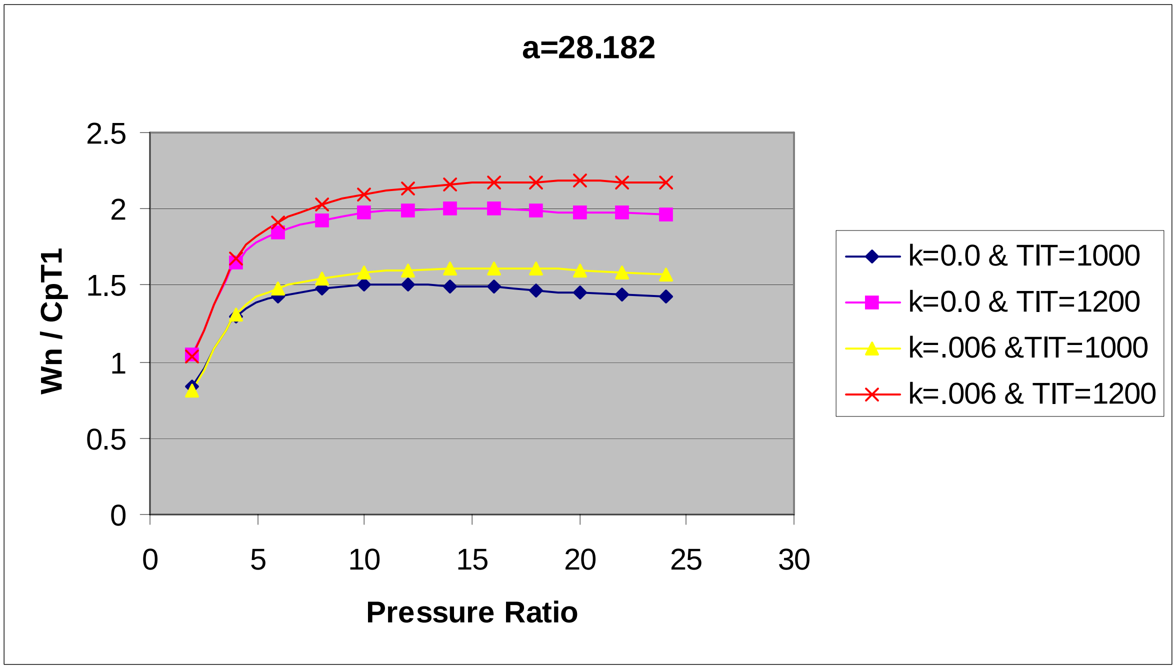


**Fig 3.2.17** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler

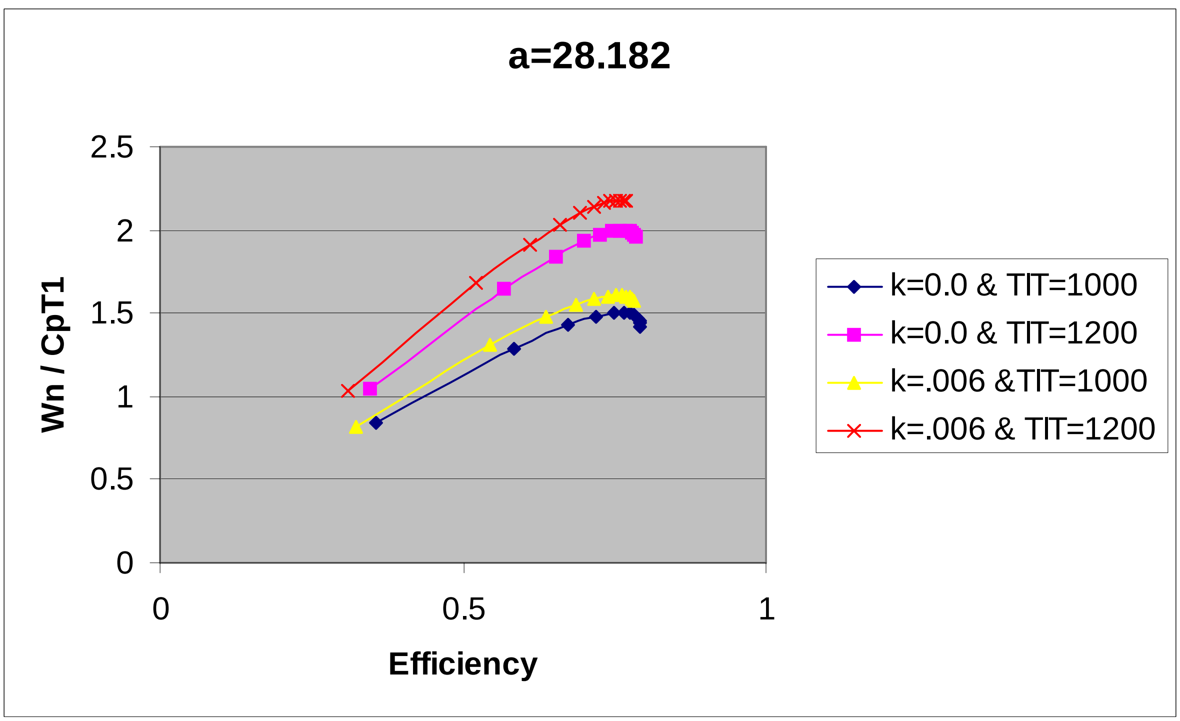


**Fig 3.2.18** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler

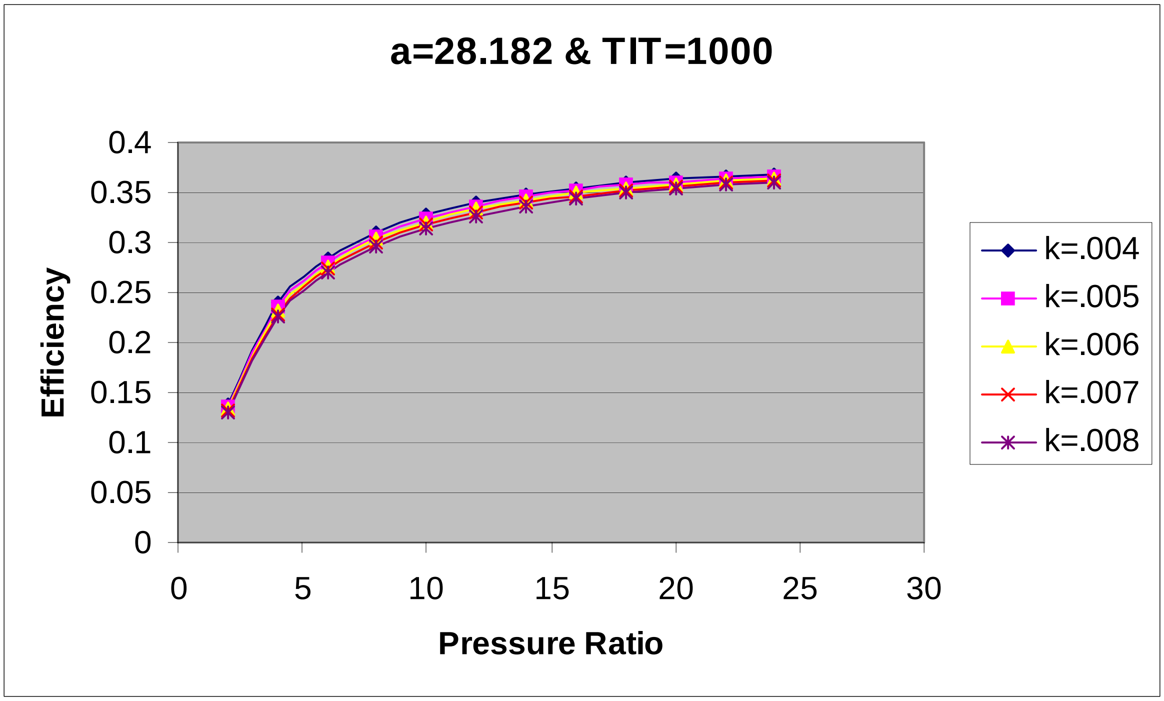


**Fig 3.3.1** Variation of Efficiency of gas turbine Vs Pressure ratio with one Reheat

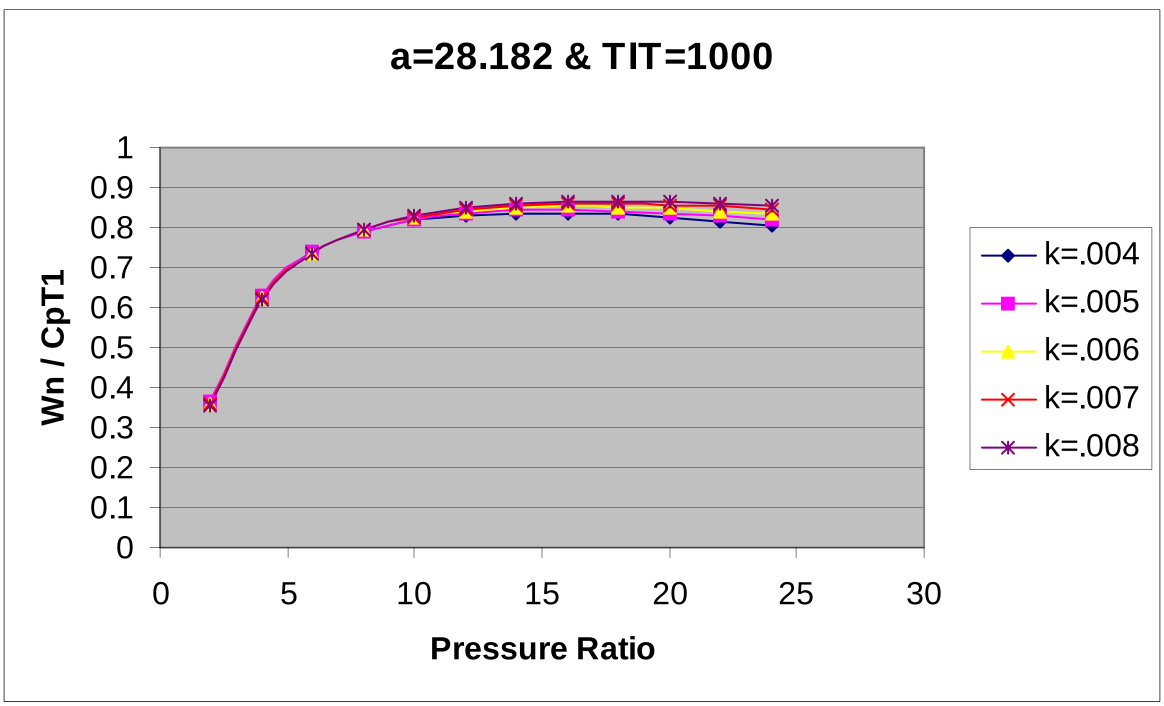


**Fig 3.3.2** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one Reheat

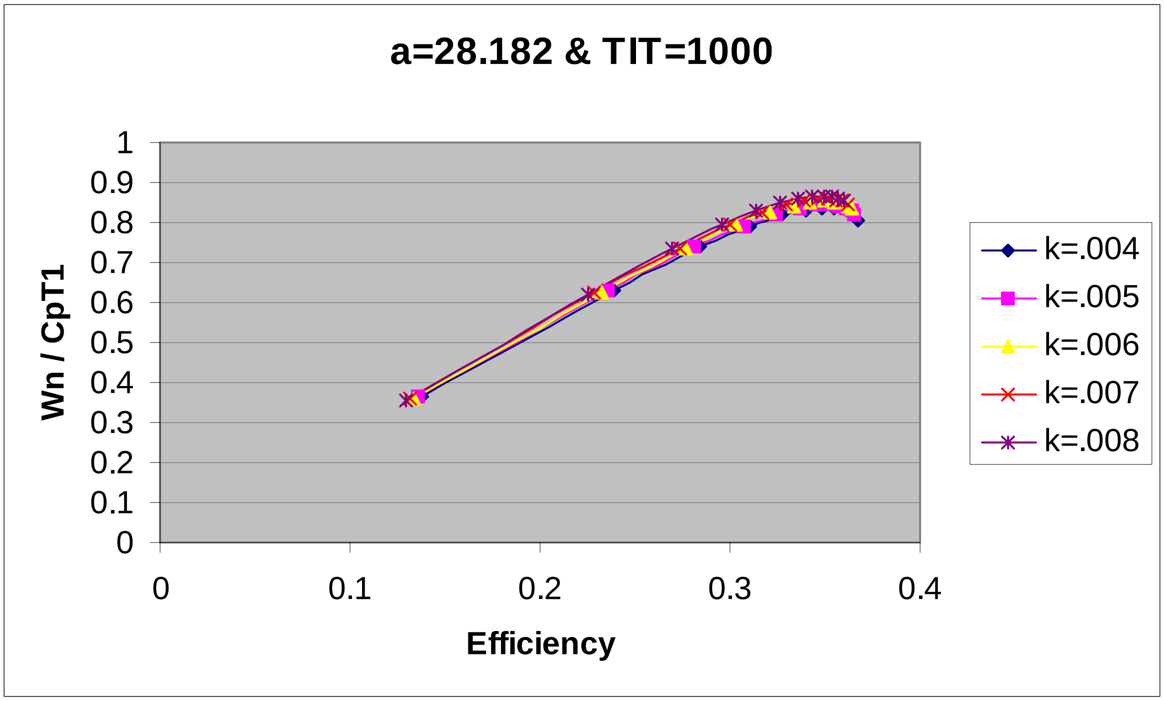


**Fig 3.3.3** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one Reheat

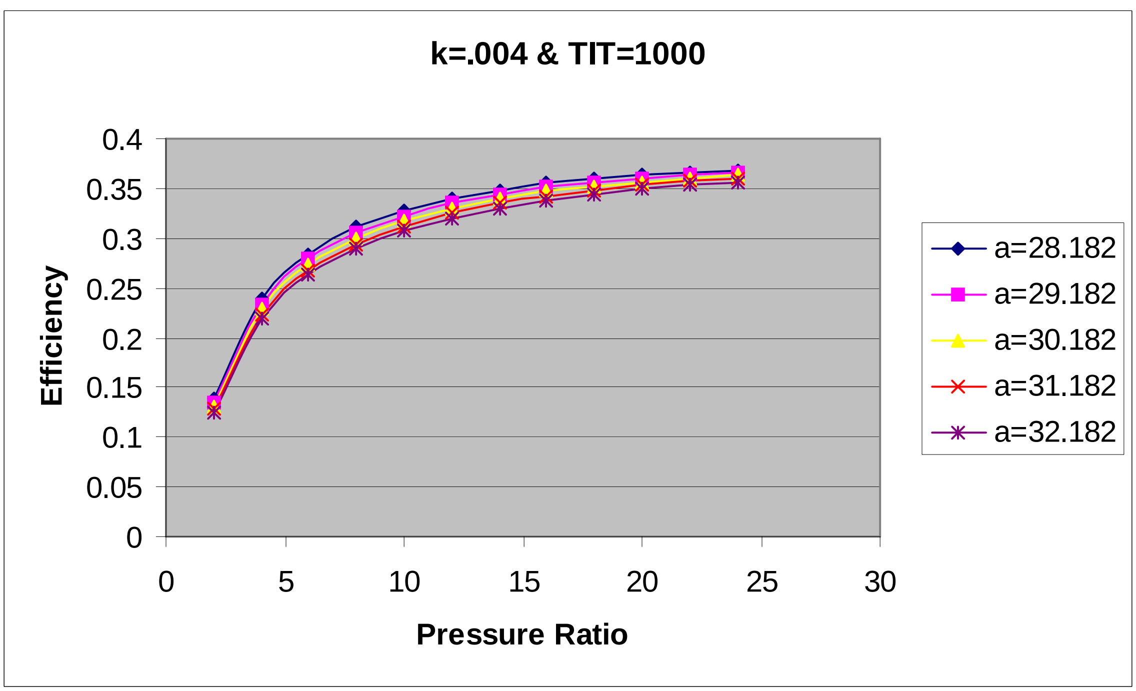


**Fig 3.3.4** Variation of Efficiency of gas turbine Vs Pressure ratio with one Reheat

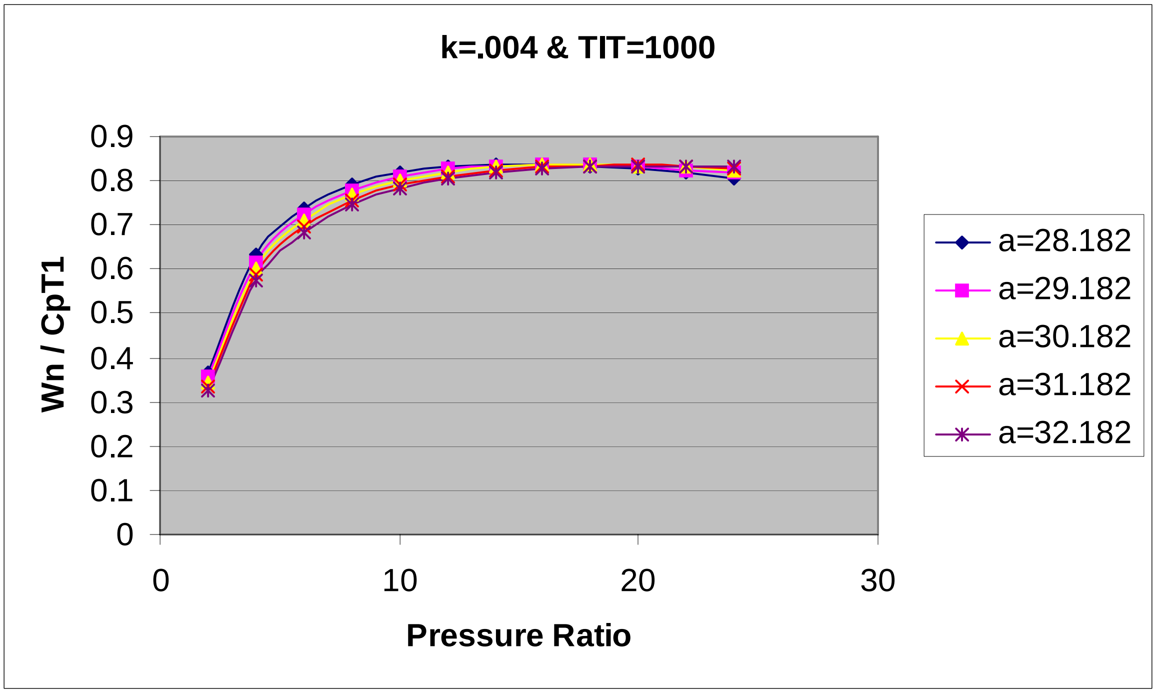


**Fig 3.3.5** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one Reheat

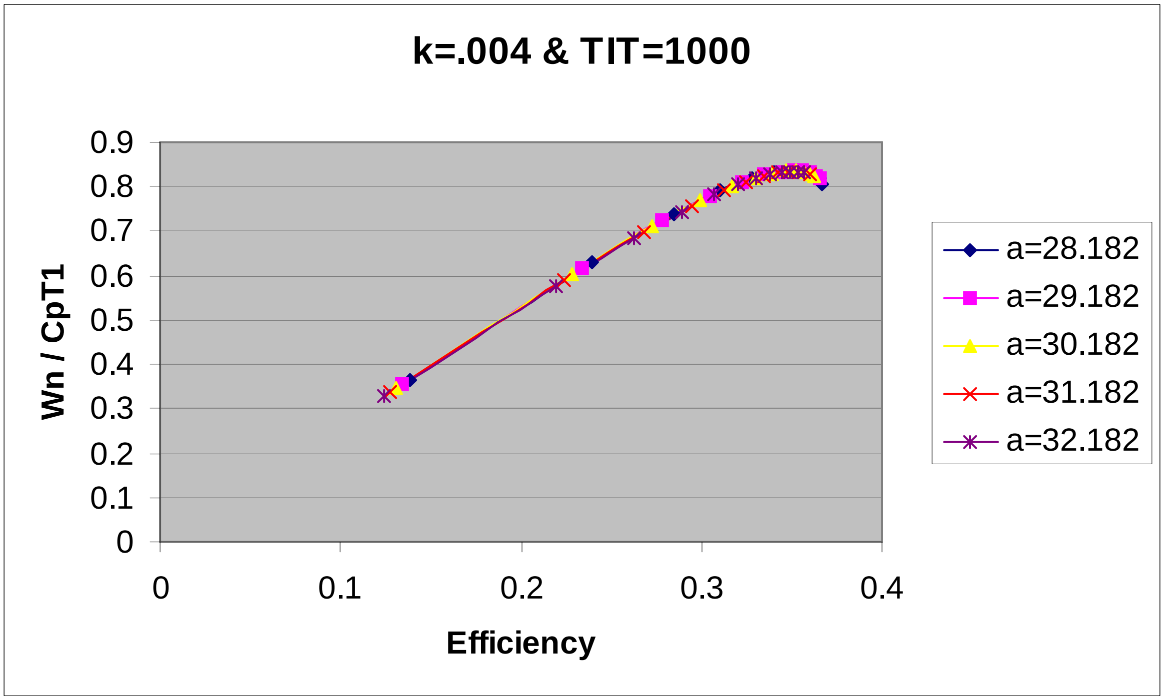


**Fig 3.3.6** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one Reheat

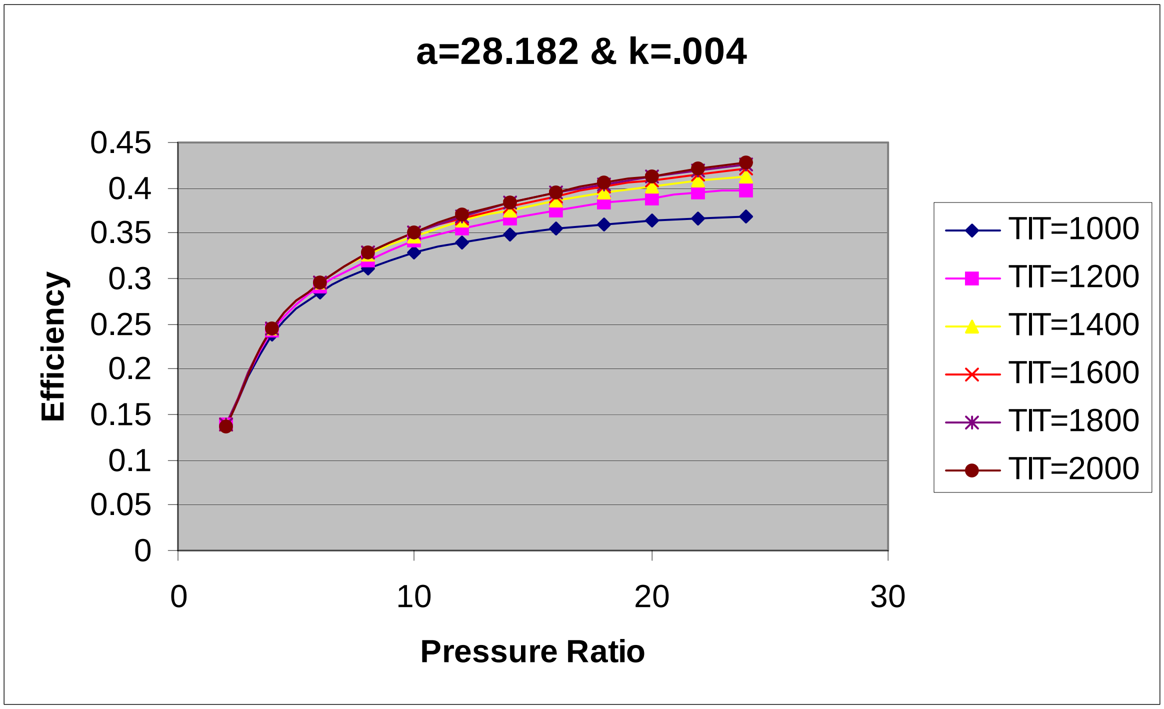


**Fig 3.3.7** Variation of Efficiency of gas turbine Vs Pressure ratio with one Reheat

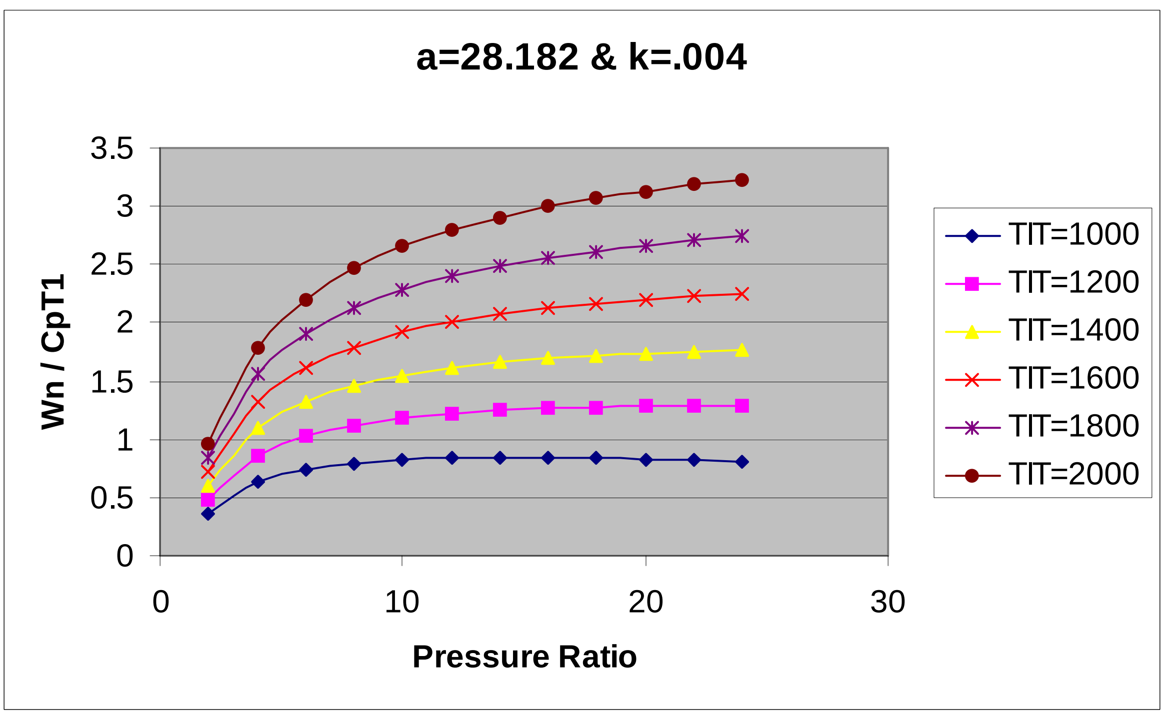


**Fig 3.3.8** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one Reheat

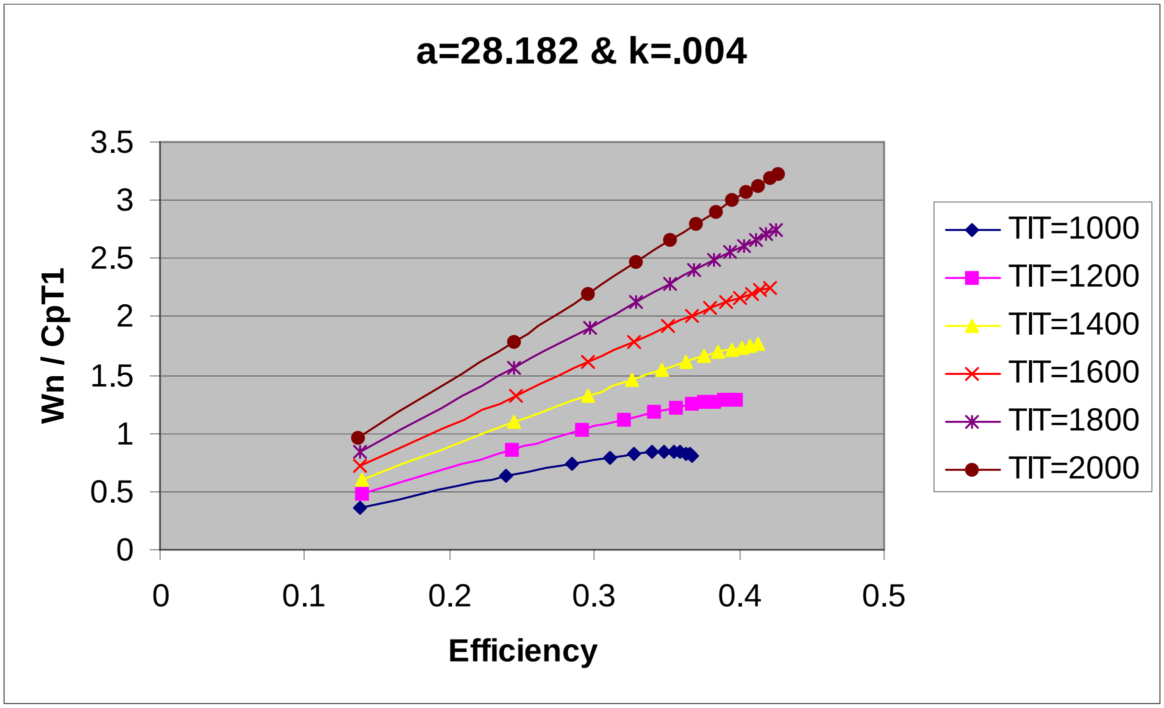


**Fig 3.3.9** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one Reheat

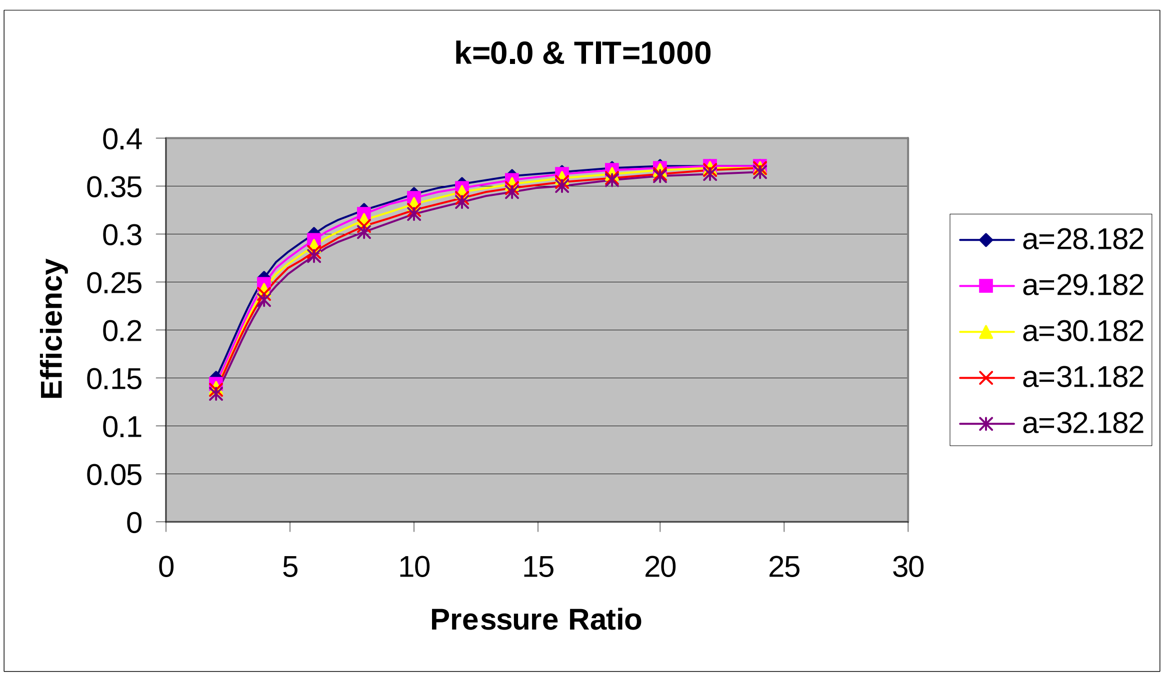


**Fig 3.3.10** Variation of Efficiency of gas turbine Vs Pressure ratio with one Reheat

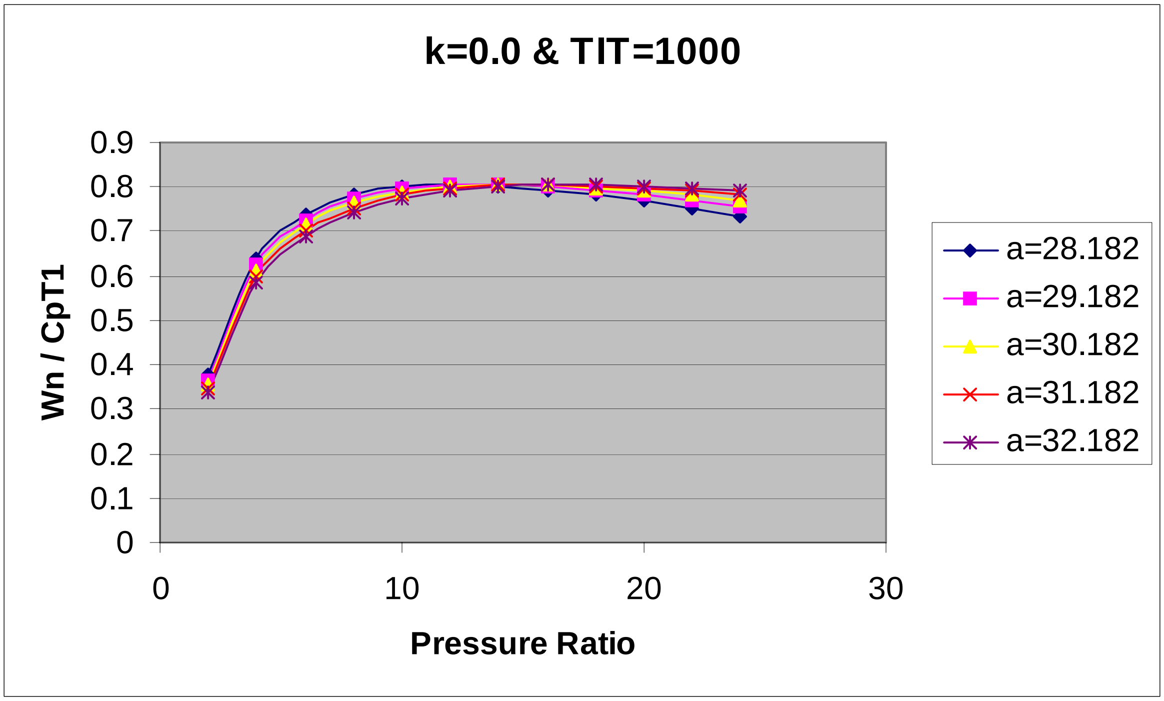


**Fig 3.3.11** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one Reheat

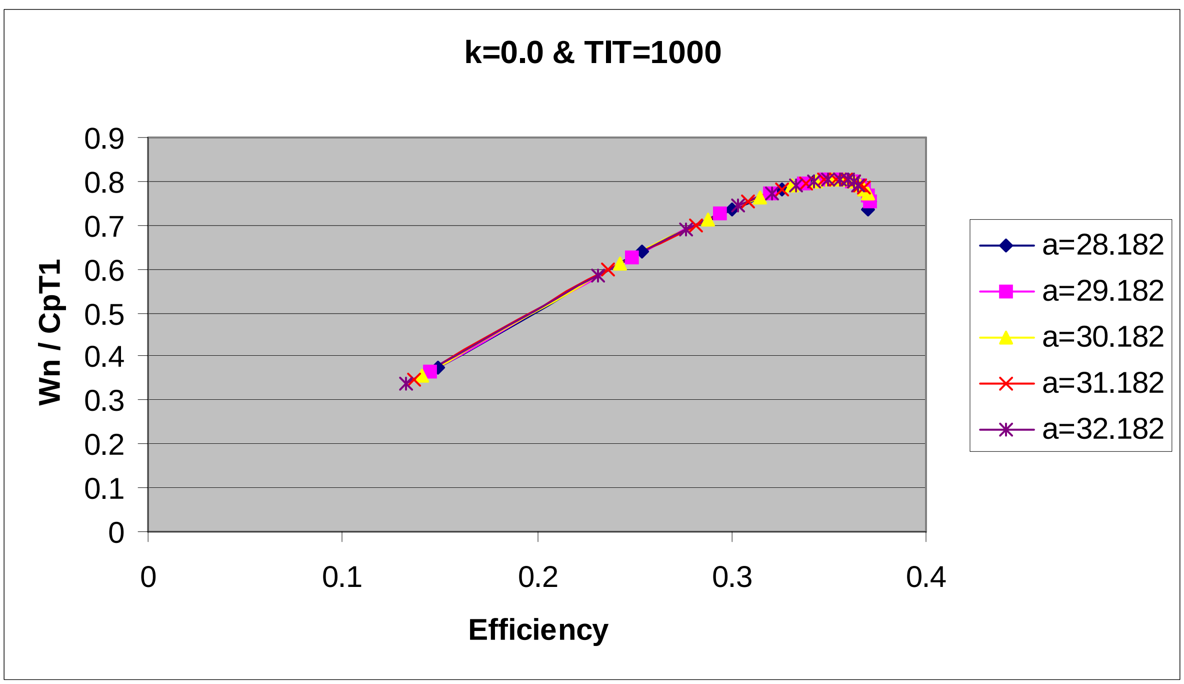


**Fig 3.3.12** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one Reheat

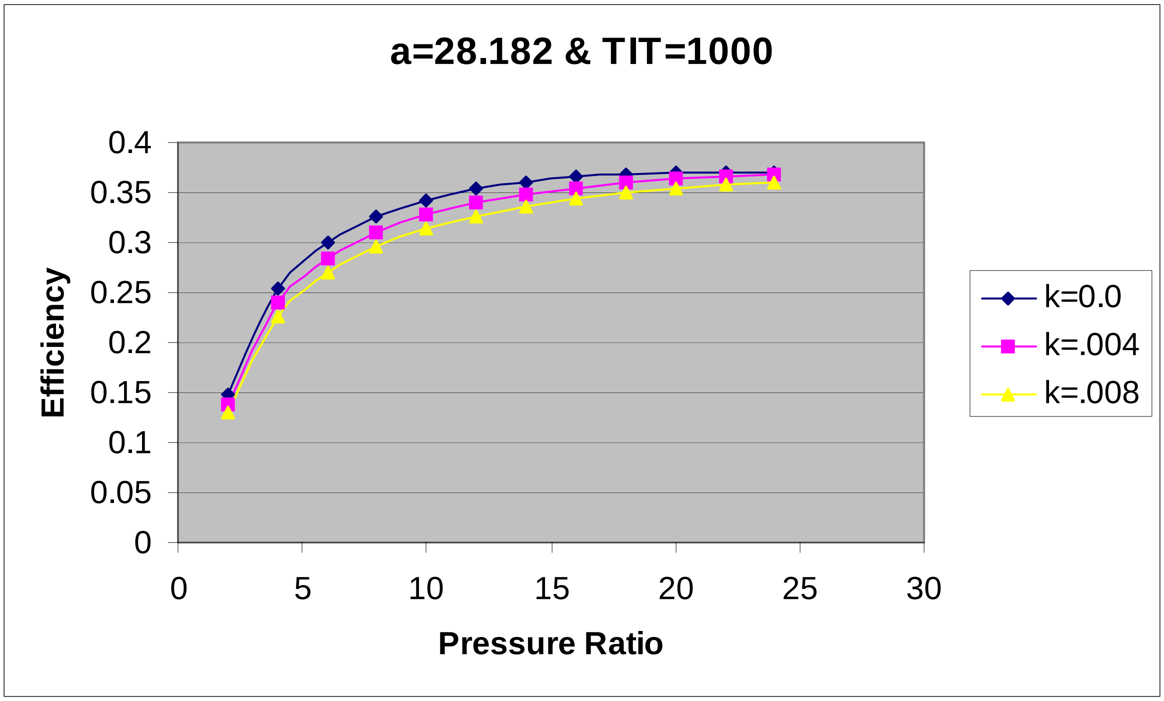


**Fig 3.3.13** Variation of Efficiency of gas turbine Vs Pressure ratio with one Reheat

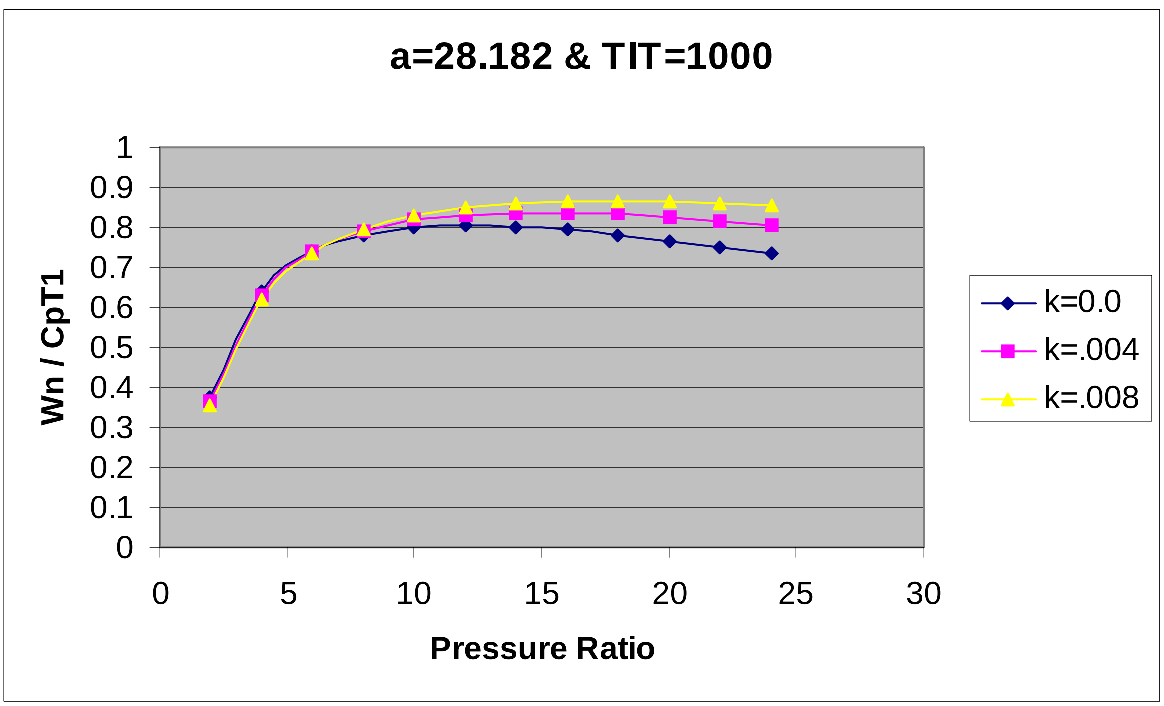


**Fig 3.3.14** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one Reheat

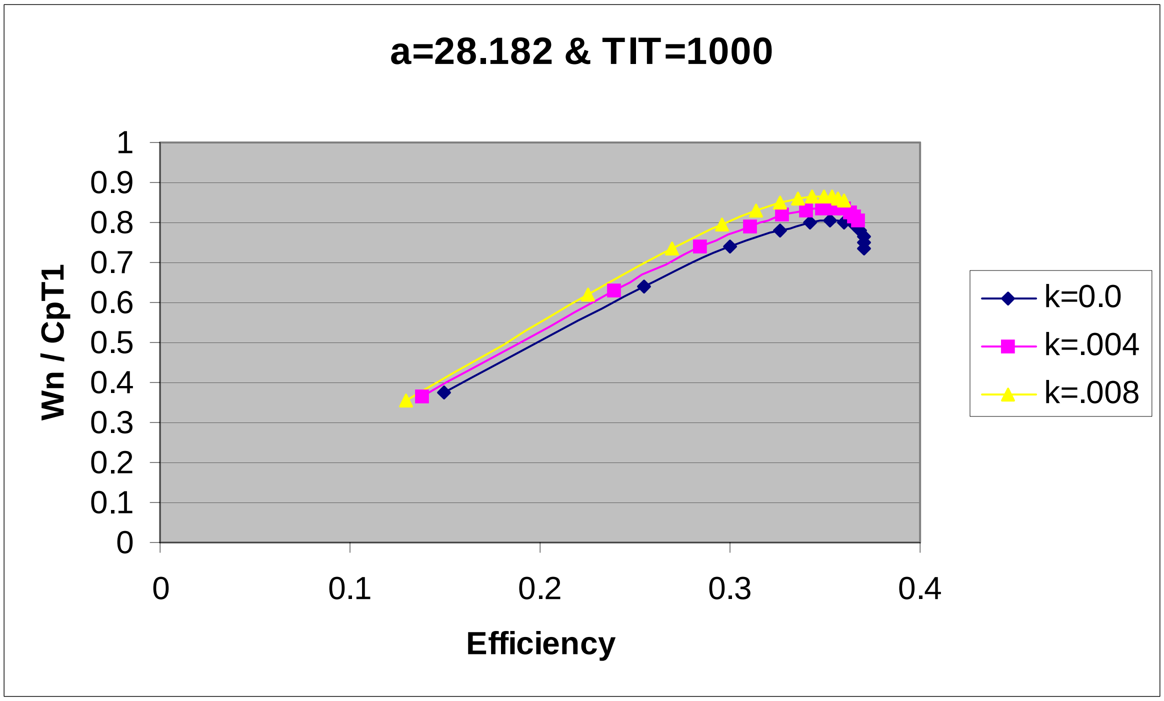


**Fig 3.3.15** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one Reheat

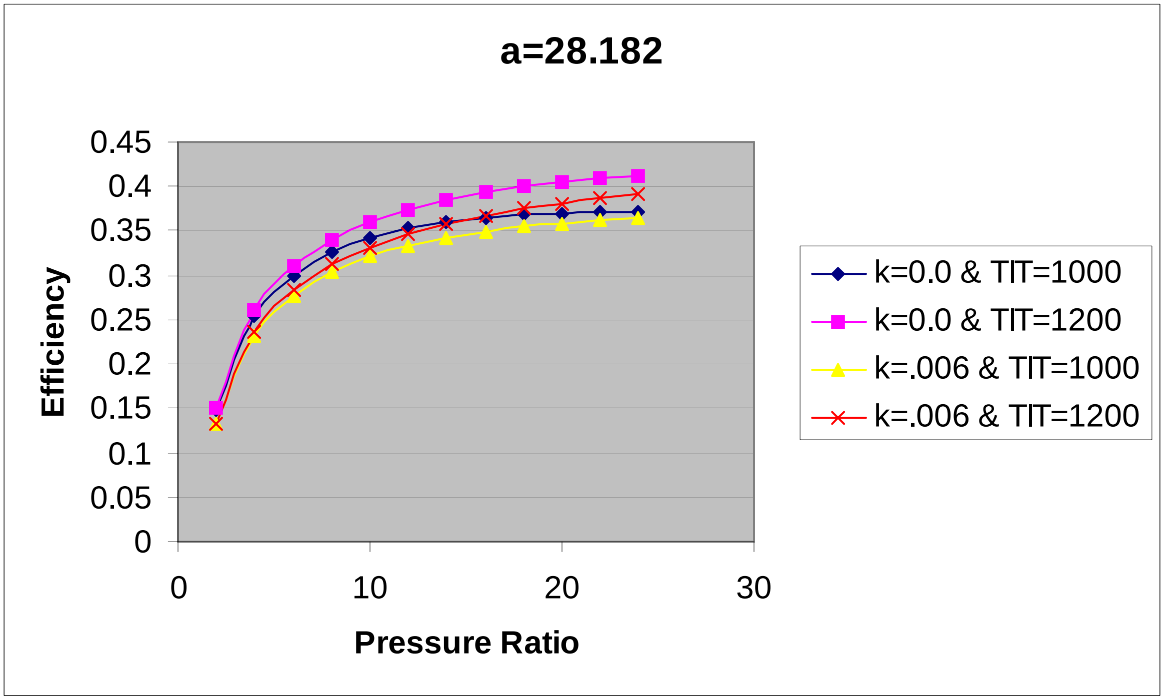


**Fig 3.3.16** Variation of Efficiency of gas turbine Vs Pressure ratio with one Reheat

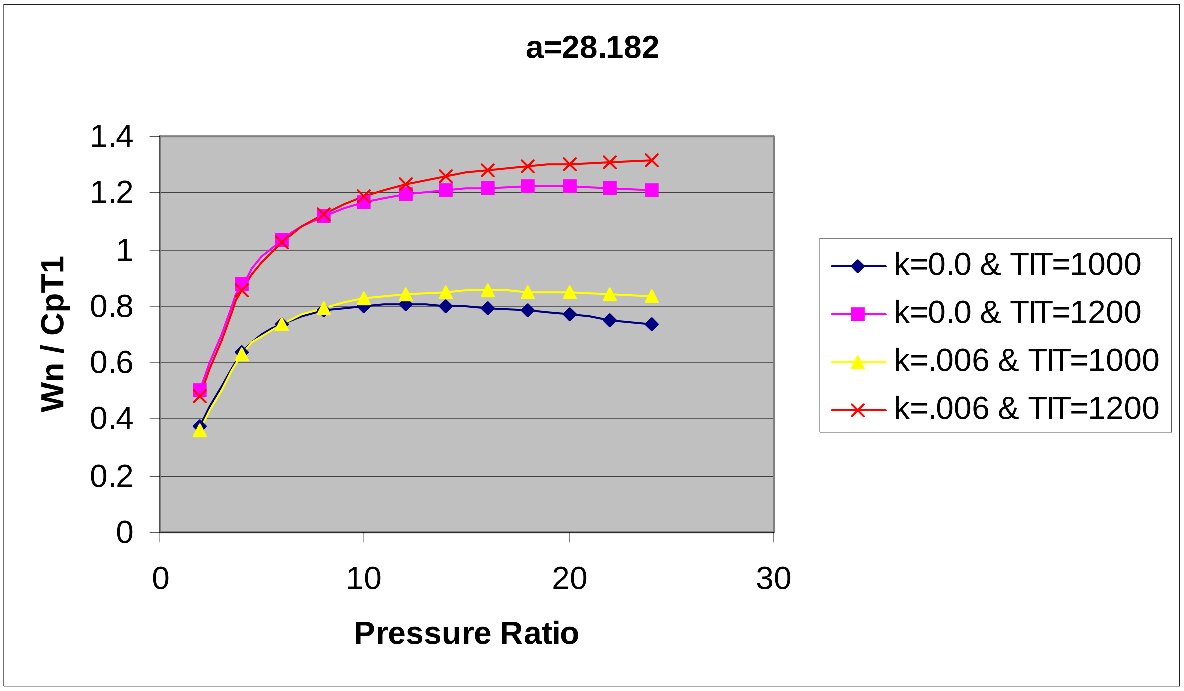


**Fig 3.3.17** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one Reheat

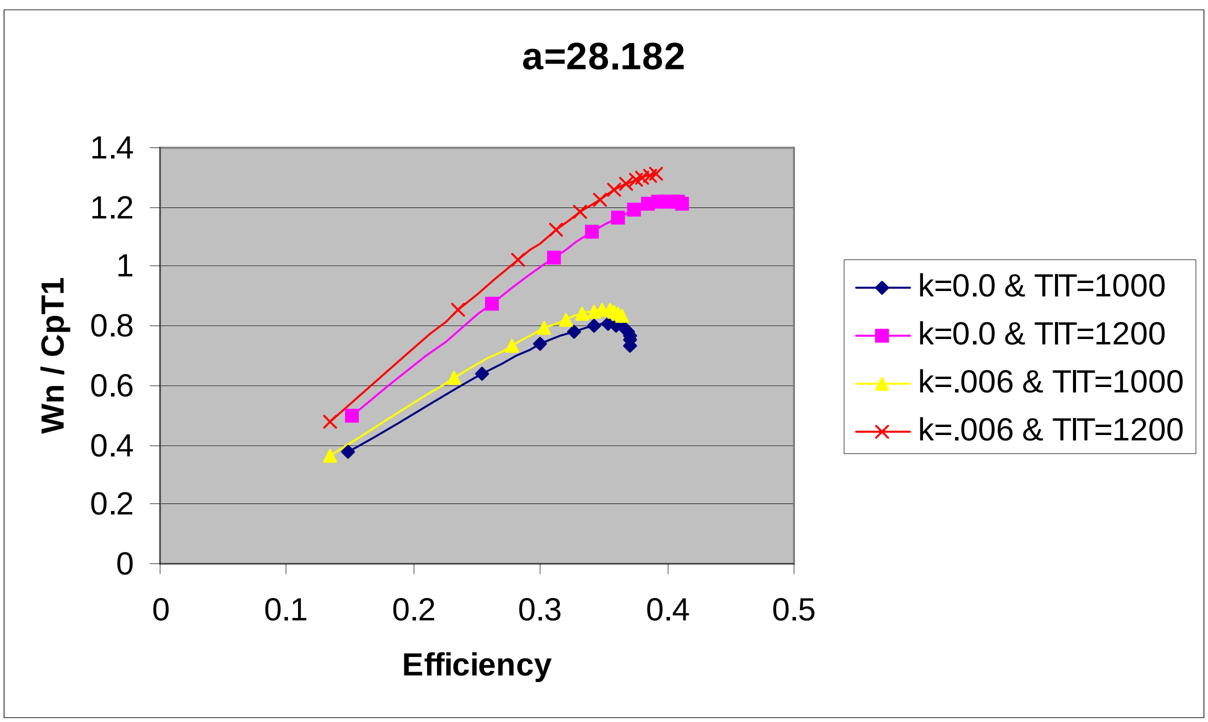


**Fig 3.3.18** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one Reheat

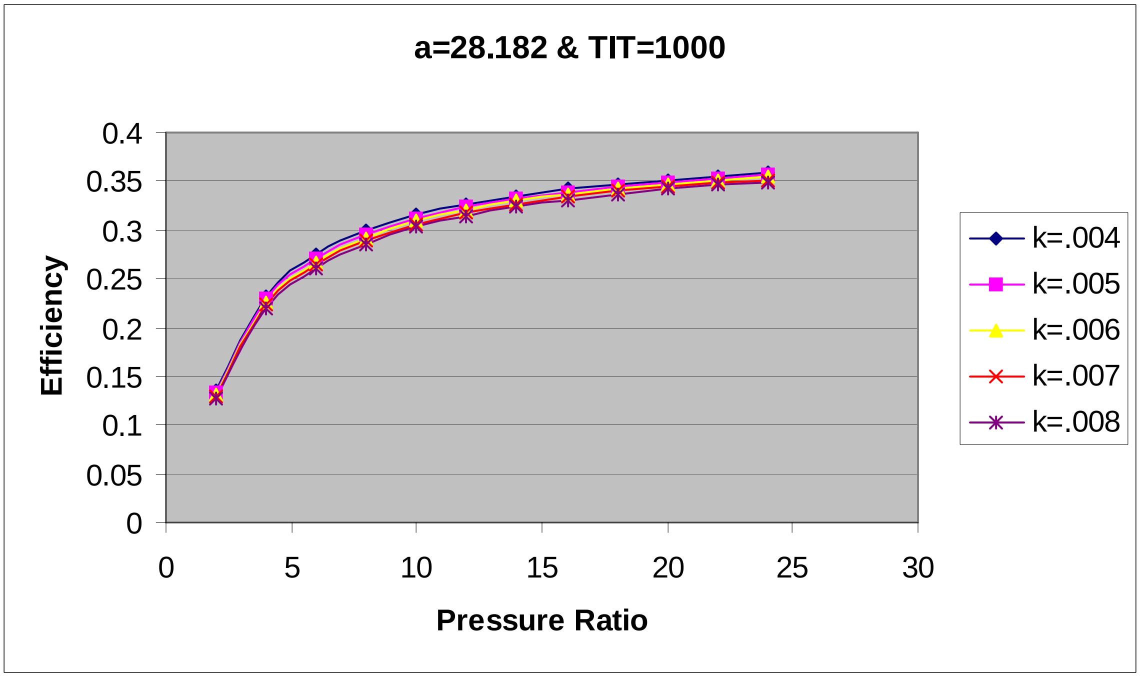


**Fig 3.4.1** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler and one Reheat

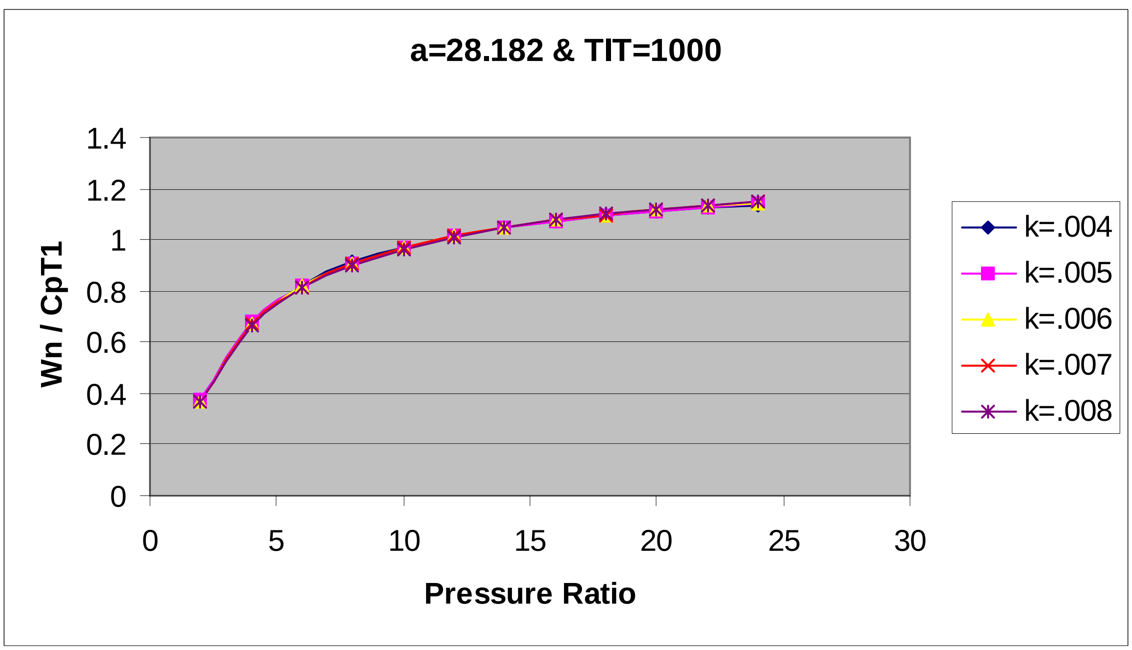


**Fig 3.4.2** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler and one Reheat

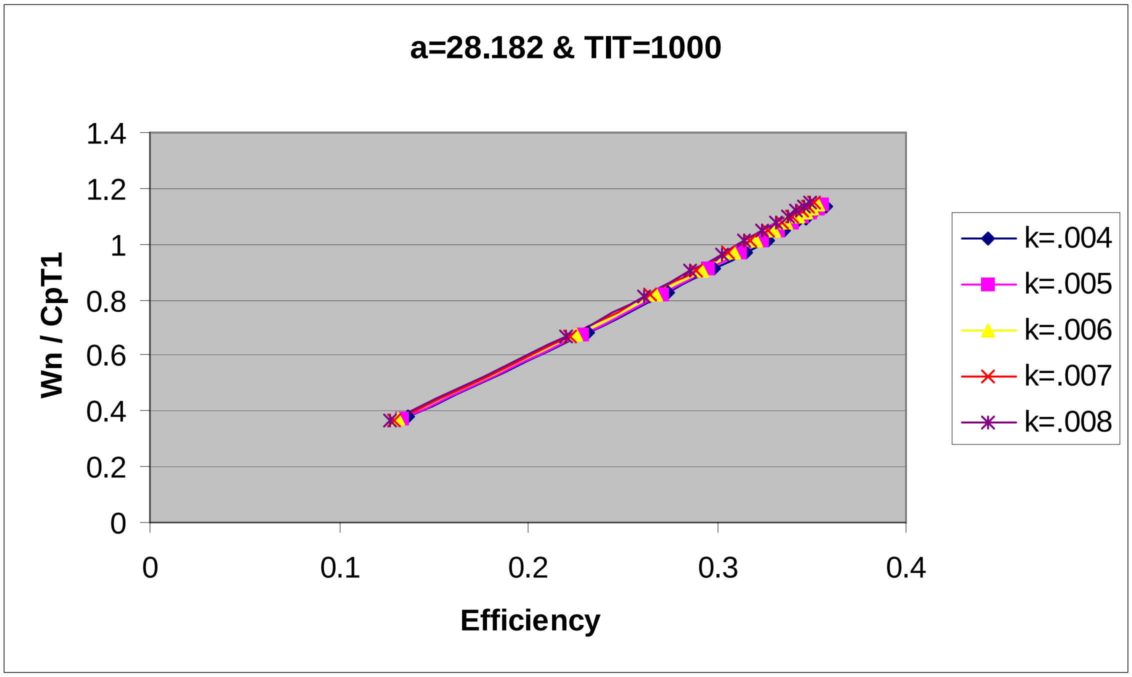


**Fig 3.4.3** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler and one Reheat

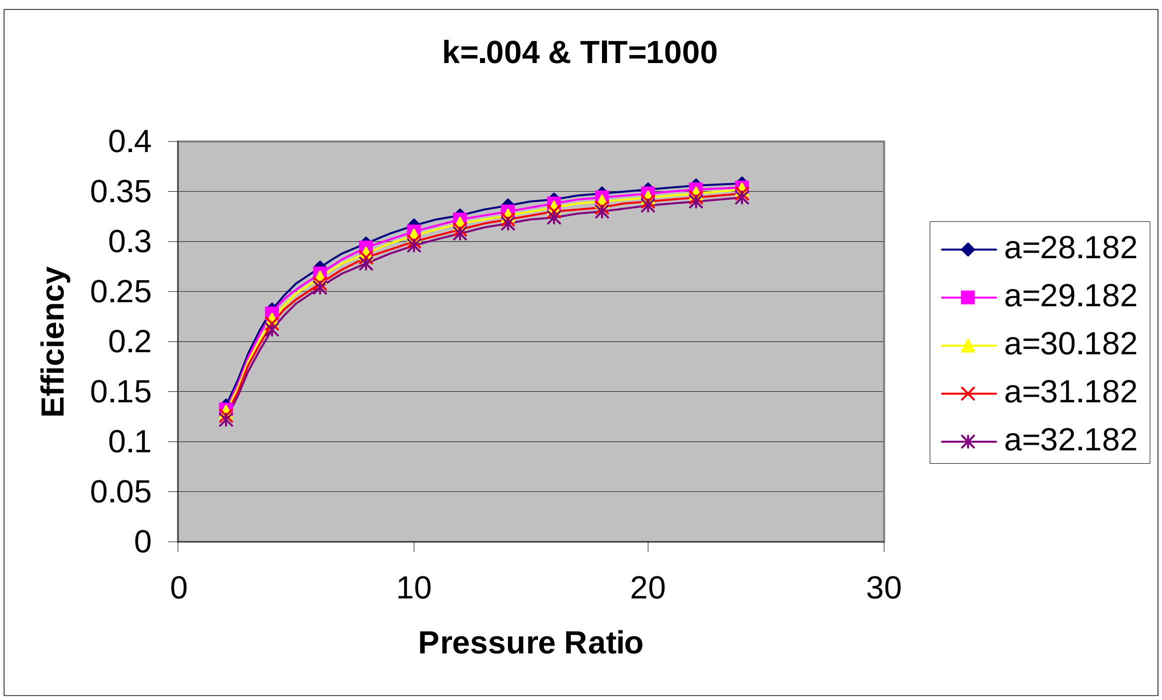


**Fig 3.4.4** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler and one Reheat

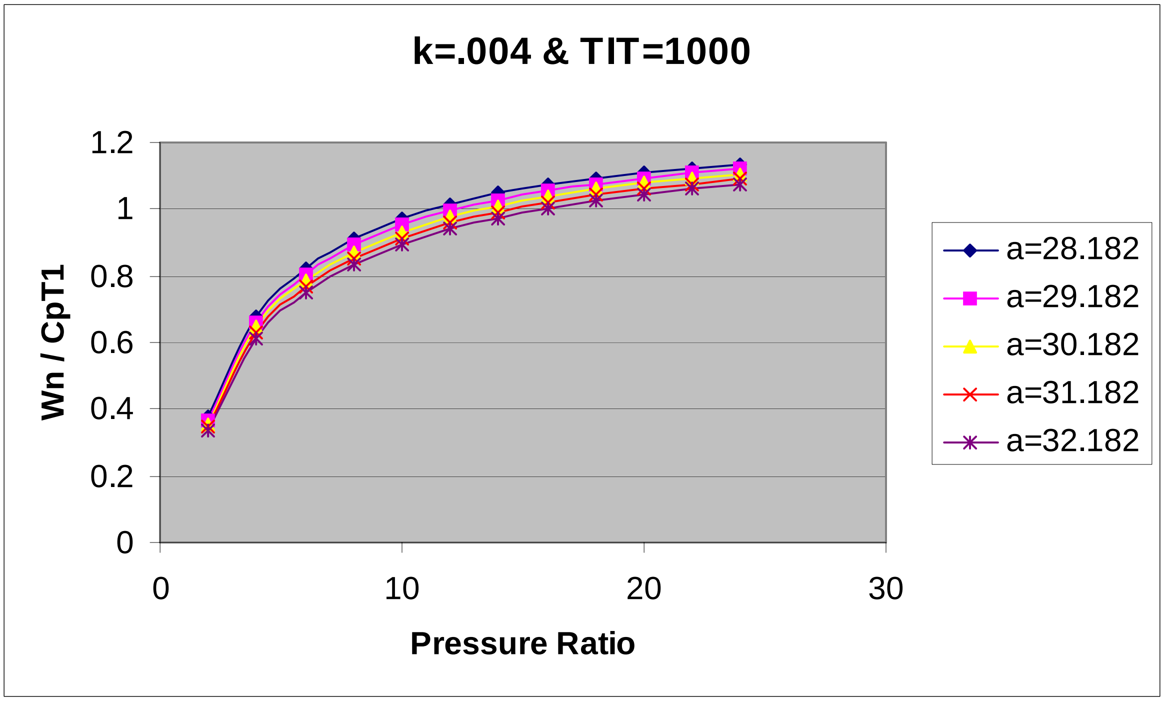


**Fig 3.4.5** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler and one Reheat

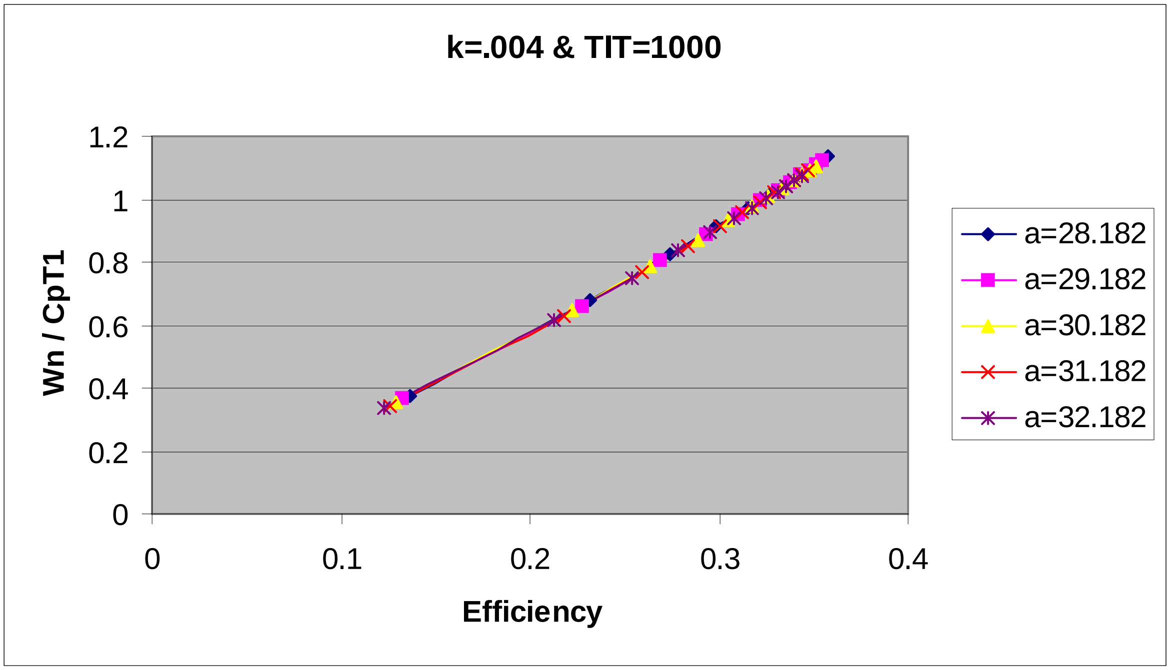


**Fig 3.4.6** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler and one Reheat

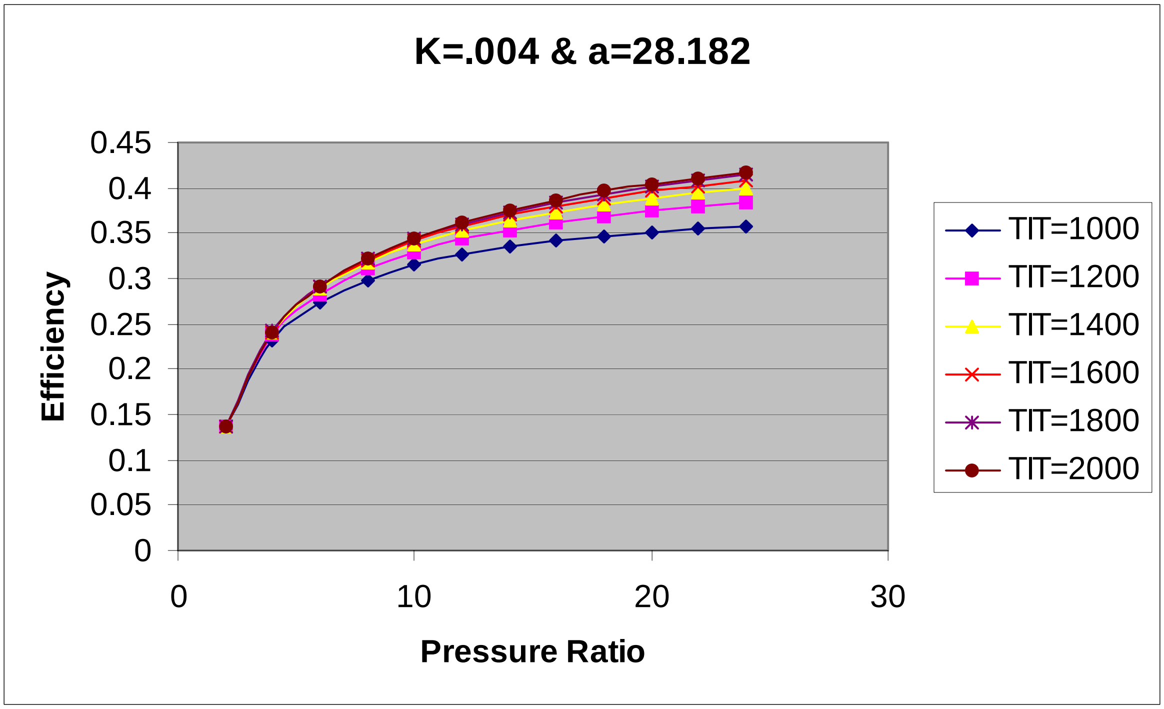


**Fig 3.4.7** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler and one Reheat

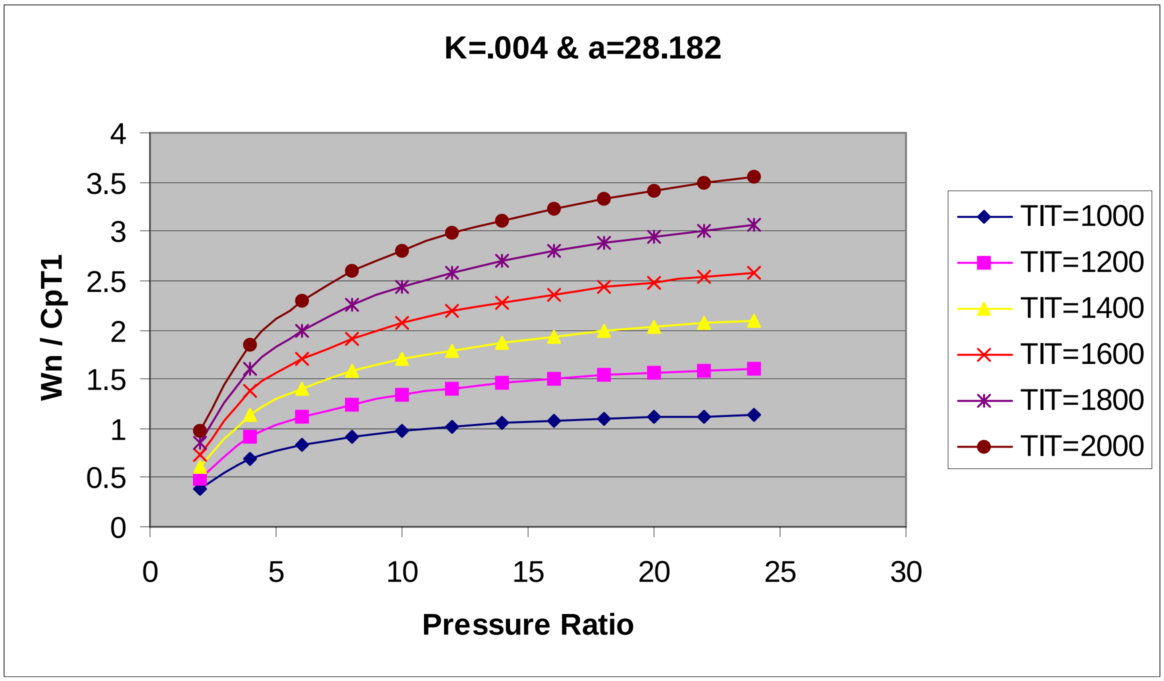


**Fig 3.4.8** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler and one Reheat

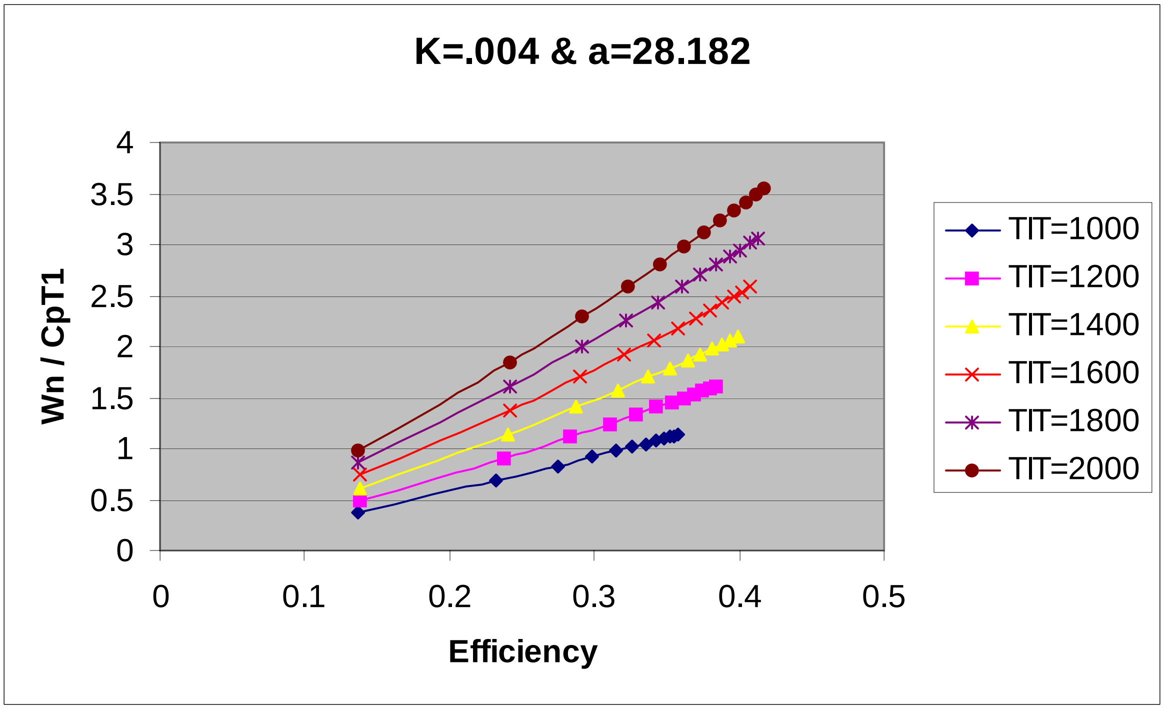


**Fig 3.4.9** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler and one Reheat

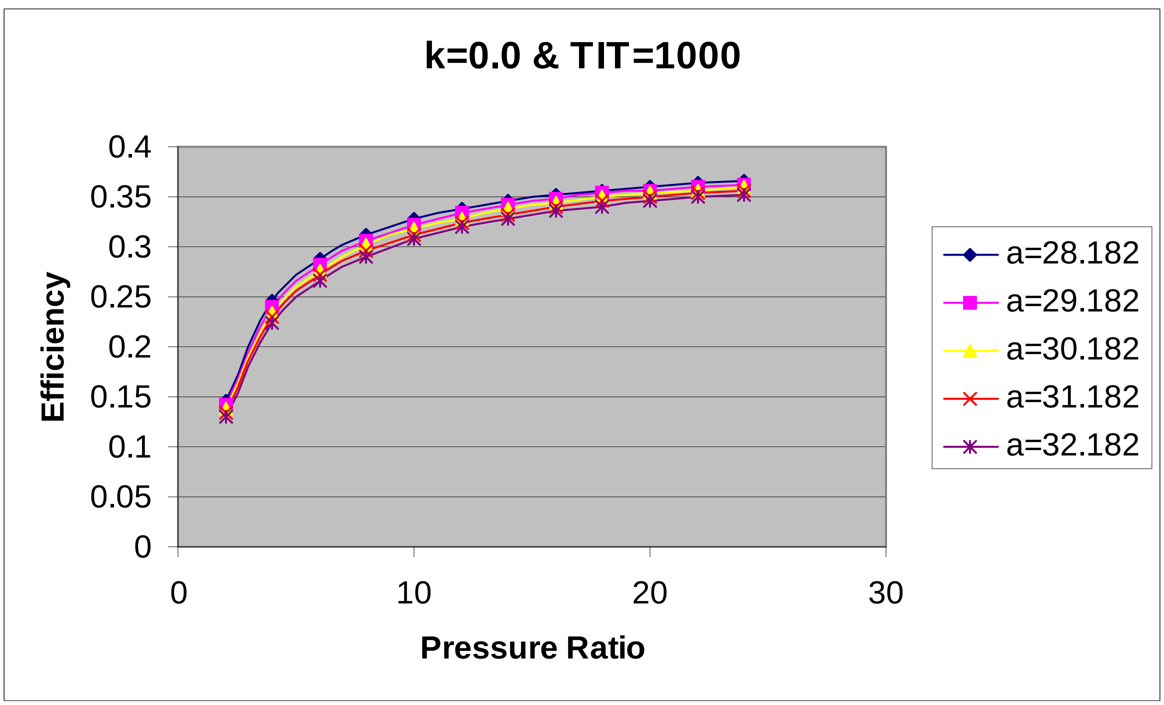


**Fig 3.4.10** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler and one Reheat

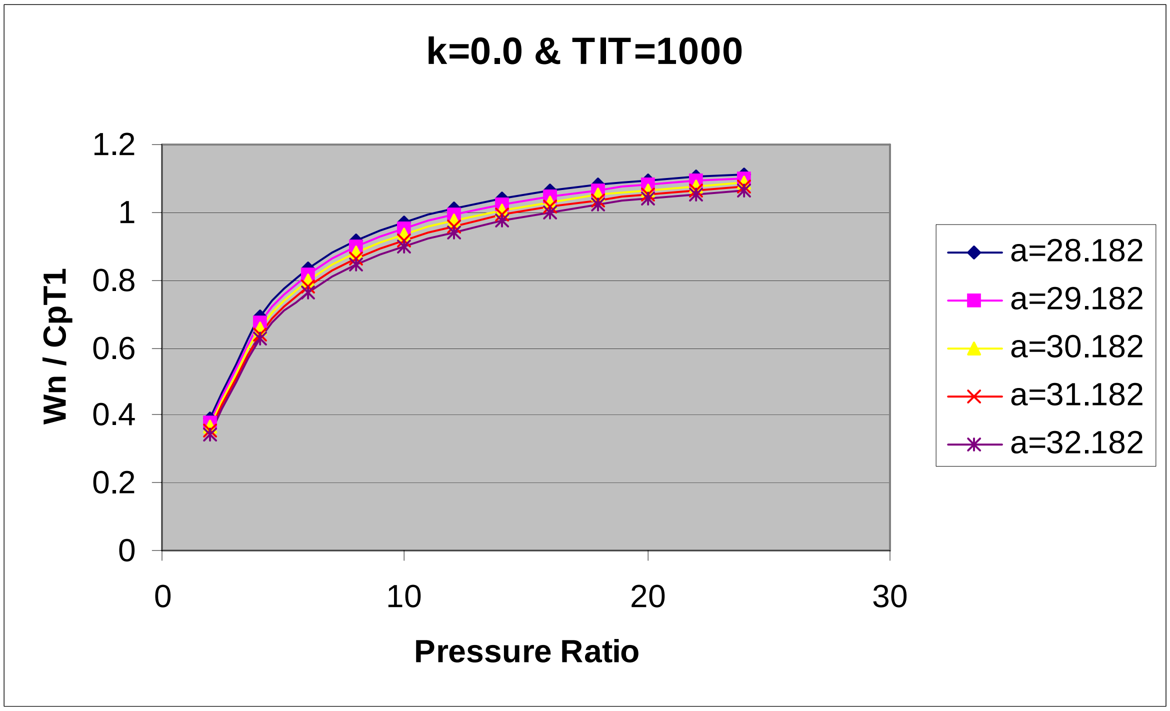


**Fig 3.4.11** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler and one Reheat

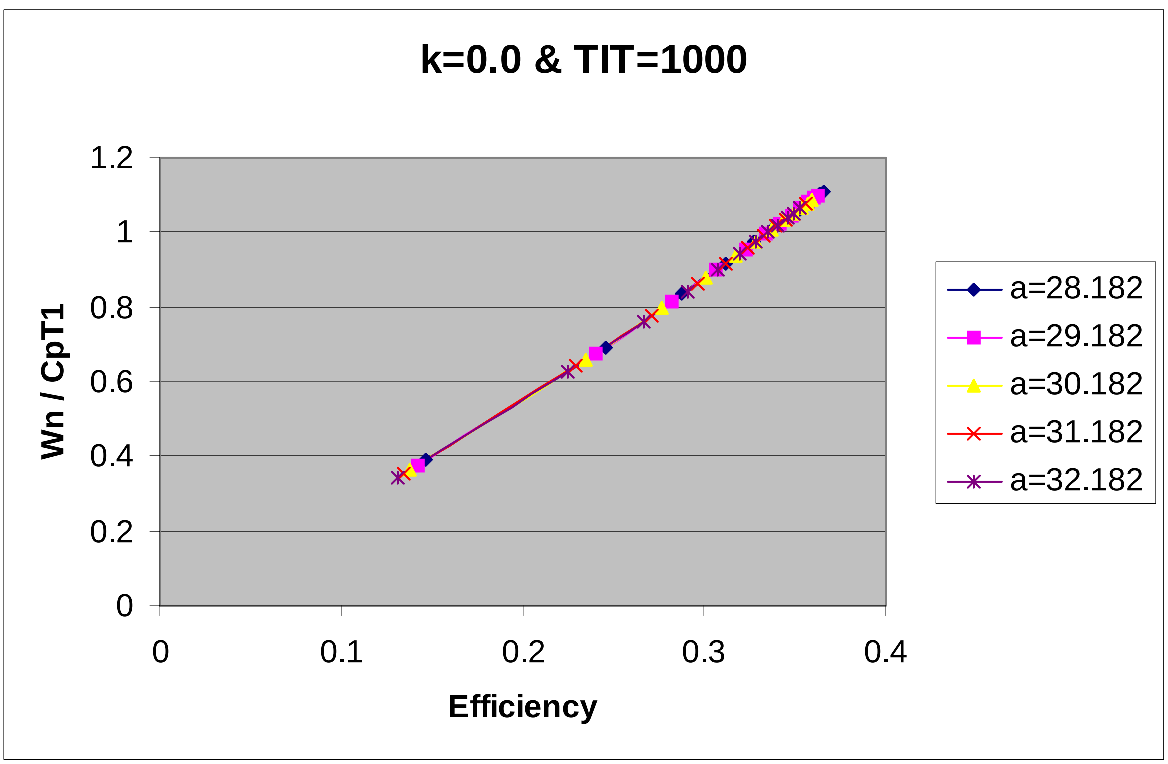


**Fig 3.4.12** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler and one Reheat

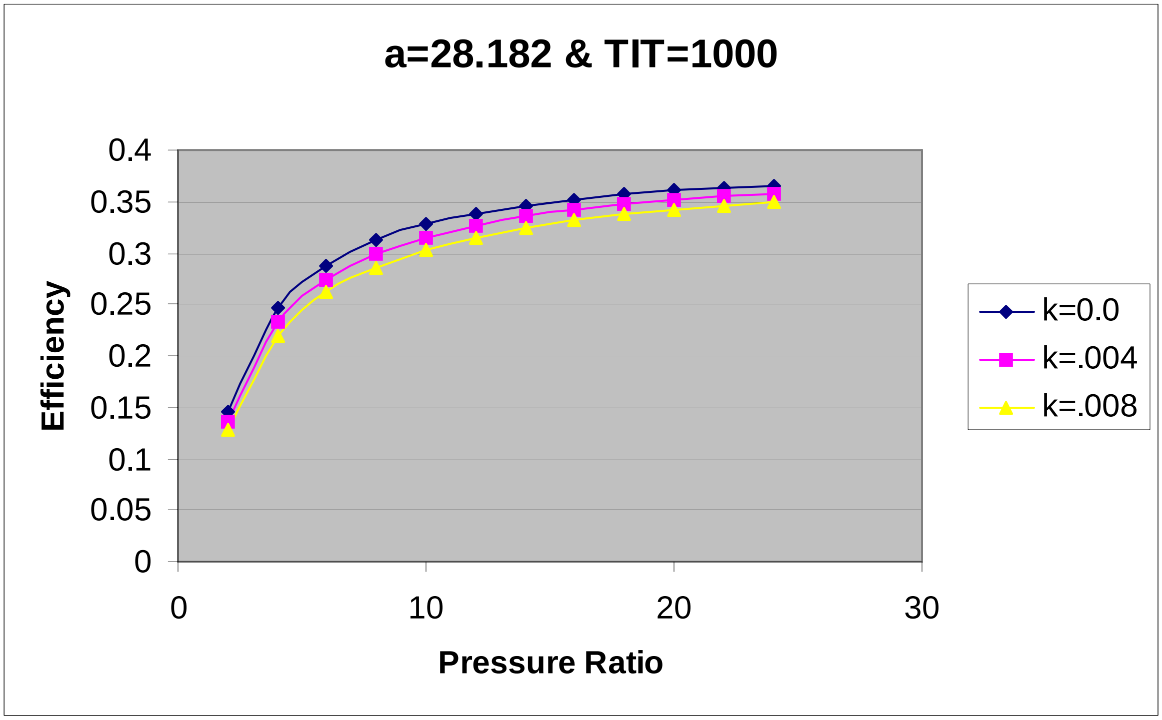


**Fig 3.4.13** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler and one Reheat

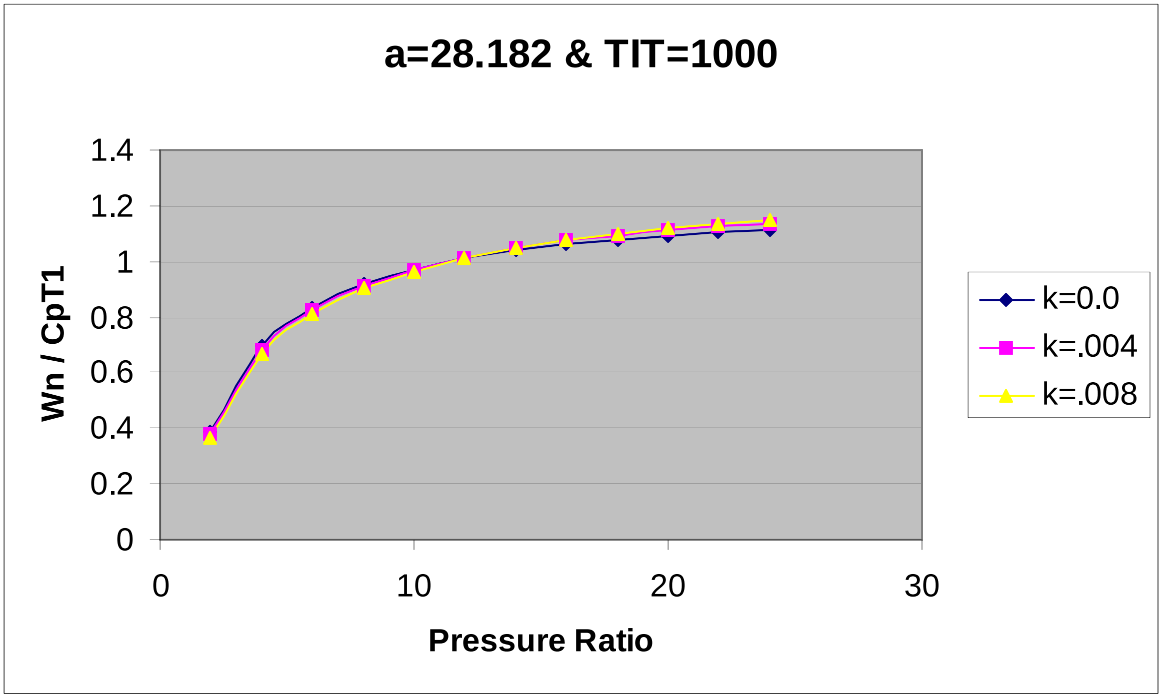


**Fig 3.4.14** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler and one Reheat

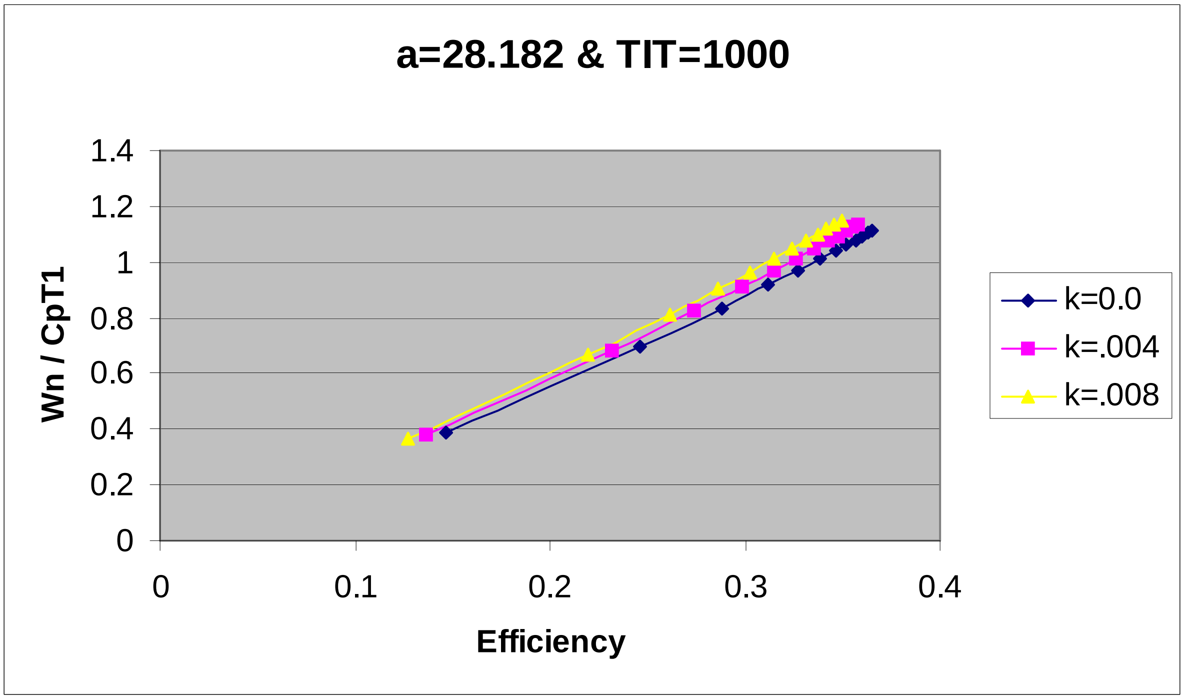


**Fig 3.4.15** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler and one Reheat

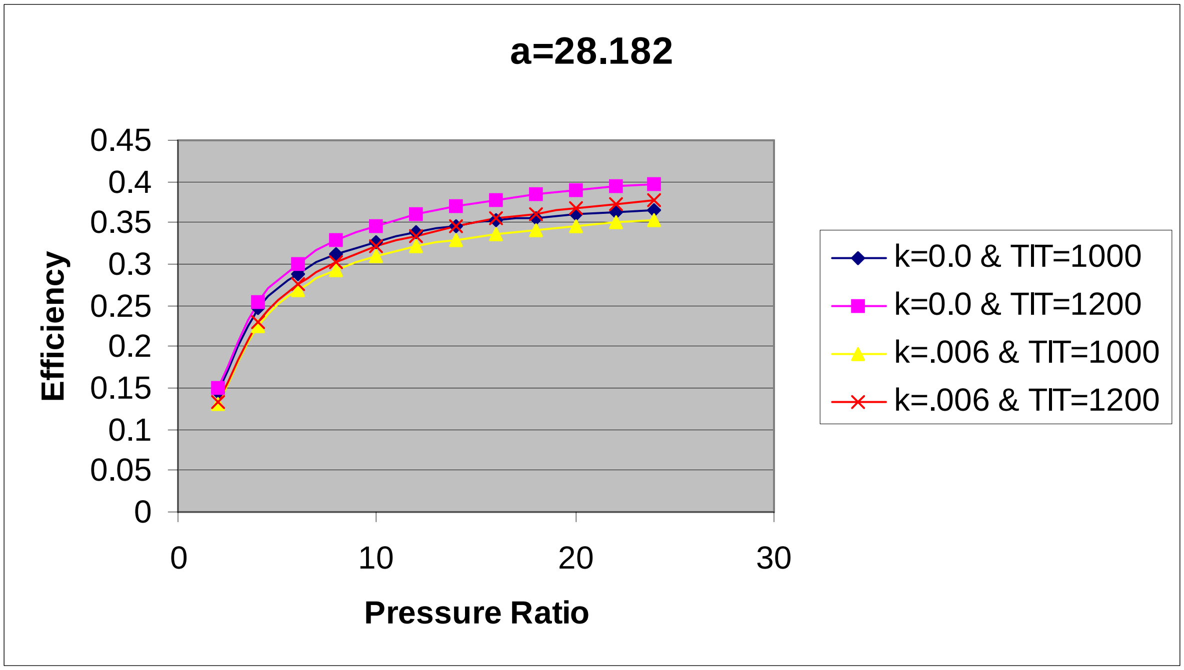


**Fig 3.4.16** Variation of Efficiency of gas turbine Vs Pressure ratio with one intercooler and one Reheat

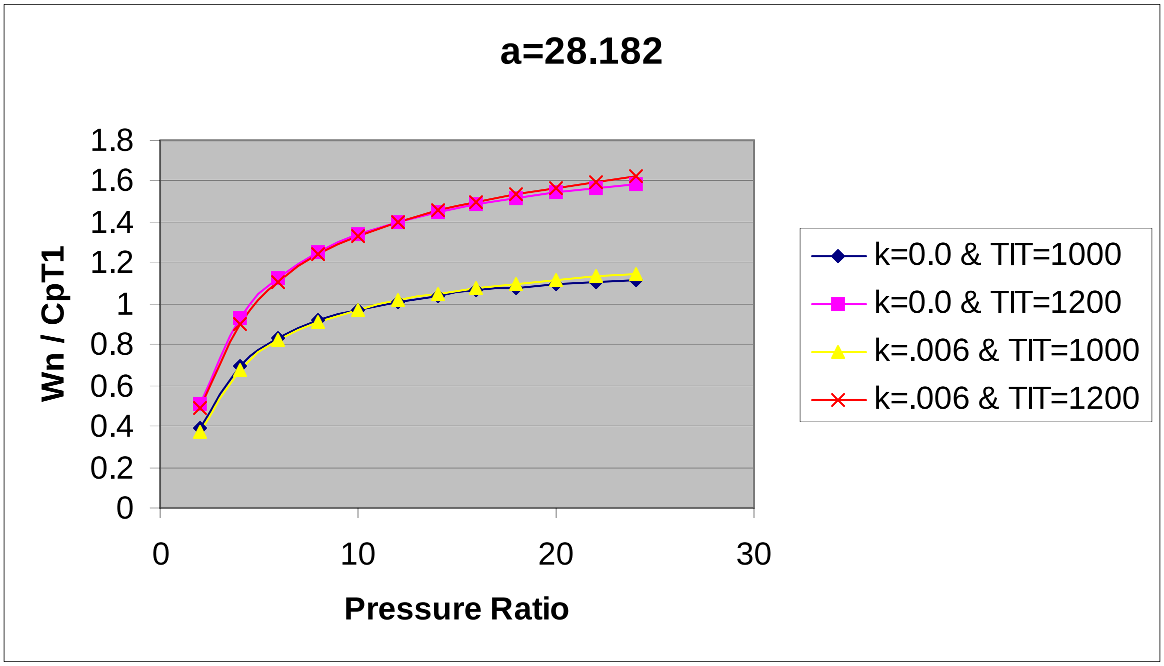


**Fig 3.4.17** Variation of $W_n/C_pT_1$ Vs Pressure ratio with one intercooler and one Reheat

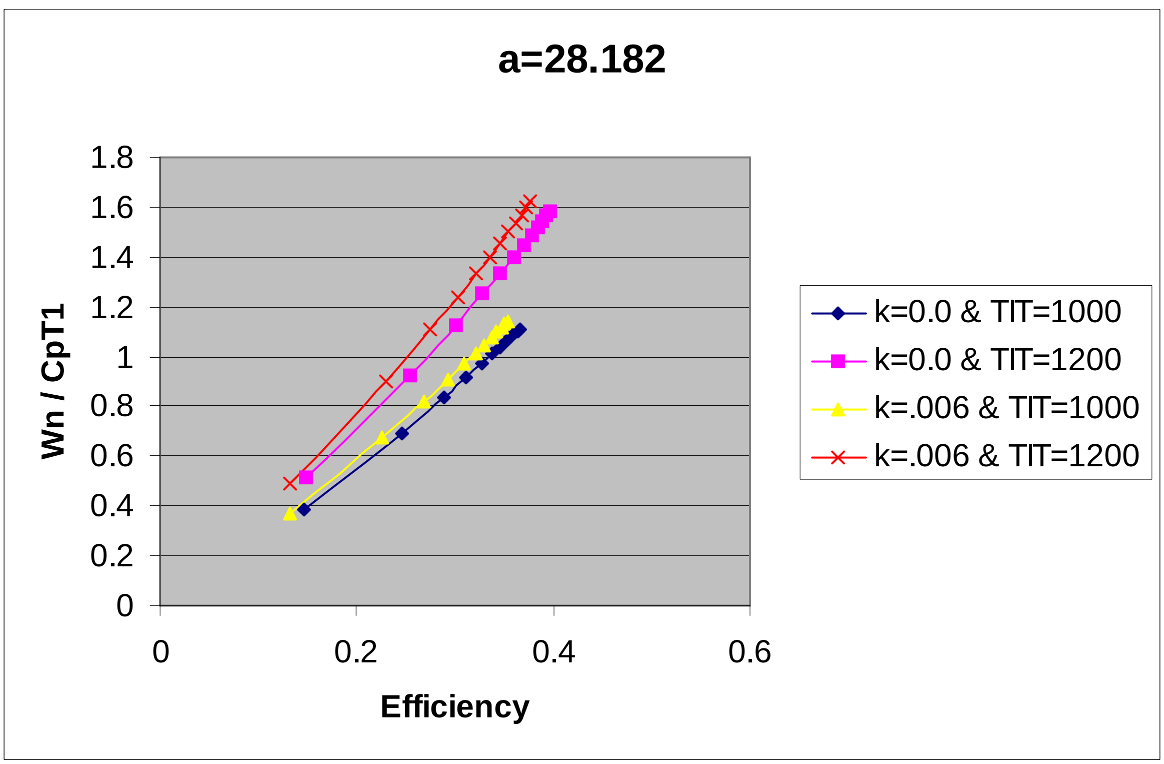


**Fig 3.4.18** Variation of $W_n/C_pT_1$ Vs Efficiency of gas turbine with one intercooler and one Reheat

# 3.3DISCUSSION OF RESULTS

## Graphs for simple gas turbine

**FROM GRAPH 3.1.1**

- For each value of k, the efficiency of the cycle increases with increase in pressure ratio of the cycle.
- For the increasing value of k, the efficiency of the cycle decreases for the same value of the pressure ratio.
- For the higher value of the pressure ratio, the difference between the efficiency of the cycle for two different values of k decreases.

**FROM GRAPH 3.1.2**

- For each value of k, the ratio of Wn / Cp $T_1$ first increases then decreases with the pressure ratio.
- For increasing value of k, ratio of $W_n$ / Cp $T_1$ increases for the same pressure ratio.
- For the increasing value of k , the optimum pressure ratio for the maximum value of $W_n$ / $C_p$ $T_1$ shifts toward higher pressure ratio.

**FROM GRAPH 3.1.3**

- For the increasing value of k , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of k, the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of k, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.1.4**

- For each value of 'a', the efficiency of the cycle increases with increase in pressure ratio of the cycle.
- For the increasing value of 'a', the efficiency of the cycle decreases for the same value of the pressure ratio.
- For the higher value of the pressure ratio, the difference between the efficiency of the cycle for two different values of ' a ' decreases.

**FROM GRAPH 3.1.5**

- For each value of 'a' ,the ratio $W_n$ / Cp $T_1$ first increases and then decreases.
- For a increasing value of ' a', the ratio $W_n$ / Cp $T_1$ decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ' a' , higher the ratio $W_n$ / Cp $T_1$ .
- With the increasing value of 'a' , for the maximum value of the ratio $W_n$ / Cp $T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.1.6**

- For the increasing value of 'a' , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of 'a' , the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of 'a', the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.1.7**

- For each value of TIT, the efficiency of the cycle increases as the pressure ratio increases.

- For the increasing value of TIT, the efficiency of the cycle increases for the same pressure ratio.
- Increasing the pressure ratio, the difference between the efficiency of the cycle for two different values of 'TIT' increases.

**FROM GRAPH 3.1.8**

- For each value of TIT, the ratio $W_n / Cp\, T_1$ of the cycle increases as the pressure ratio increases.
- For the increasing value of TIT, the ratio $W_n / Cp\, T_1$ of the cycle increases for the same pressure ratio.
- With the increasing value of 'TIT' , for the maximum value of the ratio $W_n / Cp\, T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.1.9**

- For the increasing value of TIT, the maximum value of ratio $W_n / Cp\, T_1$ of the cycle gets at a higher efficiency.
- For each value of TIT , there is a maximum value of efficiency at any value of ratio $W_n / Cp\, T_1$.
- With the increasing value of TIT , the maximum efficiency increases for any value of ratio $W_n / Cp\, T_1$.

**FROM GRAPH 3.1.10**

- For each value of 'a', the efficiency of the cycle increases.
- For a increasing value of ' a', the efficiency of the cycle decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ' a' , higher the efficiency of the cycle .

- With the increasing value of ‘a’ , for the maximum value of the efficiency of the cycle, the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.1.11**

- For each value of ‘a’ the ratio $W_n$ / Cp $T_1$ first increases and then decreases.
- For a increasing value of ‘ a’ the ratio $W_n$ / Cp $T_1$ decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ‘ a’ , higher the ratio $W_n$ / Cp $T_1$ .
- With the increasing value of ‘a’ , for the maximum value of the ratio $W_n$ / Cp $T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.1.12**

- For the increasing value of ‘a’ , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of ‘a’ , the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of ‘a’, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.1.13**

- For each value of ‘a’, the efficiency of the cycle increases.
- For a increasing value of ‘ a’, the efficiency of the cycle decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ‘ a’ , higher the efficiency of the cycle .
- With the increasing value of ‘a’ , for the maximum value of the efficiency of the cycle, the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.1.14**

- For each value of k, the ratio of Wn / Cp $T_1$ first increases then decreases with the pressure ratio.
- For increasing value of k, ratio of $W_n$ / Cp $T_1$ increases for the same pressure ratio.
- For the increasing value of k , the optimum pressure ratio for the maximum value of $W_n$ / $C_p$ $T_1$ shifts toward higher pressure ratio.

**FROM GRAPH 3.1.15**

- For the increasing value of k , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of k, the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of k, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.1.16**

- At TIT =1000, the efficiency first decreases with the pressure ratio as increasing the ' k ' but after a certain pressure ratio efficiency of the cycle increases as the 'k' increases.
- At TIT =1200, the efficiency first decreases with the pressure ratio as increasing the ' k 'and the difference between the efficiency at k=0.0 & k=0.006 decreases as the pressure ratio increases.

**FROM GRAPH 3.1.17**

- At TIT =1000, the ratio $W_n$ / Cp $T_1$ first decreases with the pressure ratio as increasing the ' k ' but after a certain pressure ratio ,the ratio $W_n$ / Cp $T_1$ of the cycle increases as the 'k' increases.
- At TIT =1200, the ratio $W_n$ / Cp $T_1$ first decreases with the pressure ratio as increasing the ' k ' but after a certain pressure ratio, the ratio $W_n$ / Cp $T_1$ increases as the 'k' increases. But the pressure ratio after which ratio $W_n$ / Cp $T_1$ increases with the 'k' increases, shifts toward high-pressure ratio as compare to TIT=1000.

**FROM GRAPH 3.1.18**

- At TIT =1000, the maximum value of ratio $W_n$ / Cp $T_1$ gets at a higher efficiency for the increasing value of 'k'.
- At TIT =1200, the maximum value of ratio $W_n$ / Cp $T_1$ gets at a higher efficiency for the increasing value of 'k'. But the value of efficiency for maximum value of ratio $W_n$ / Cp $T_1$ shifts toward high value of efficiency as compare to TIT=1000.

## Graphs for the one inter cooler used in compression process

**FROM GRAPH 3.2.1**

- For each value of k, the efficiency of the cycle increases with increase in pressure ratio of the cycle.
- For the increasing value of k, the efficiency of the cycle decreases for the same value of the pressure ratio.
- For the higher value of the pressure ratio, the difference between the efficiency of the cycle for two different values of k decreases.

**FROM GRAPH 3.2.2**

- For each value of k, the ratio of Wn / Cp $T_1$ first increases then decreases with the pressure ratio.
- For increasing value of k, ratio of $W_n$ / Cp $T_1$ increases for the same pressure ratio.
- For the increasing value of k , the optimum pressure ratio for the maximum value of $W_n$ / $C_p$ $T_1$ shifts toward higher pressure ratio.

**FROM GRAPH 3.2.3**

- For the increasing value of k , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of k, the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of k, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.2.4**

- For each value of 'a', the efficiency of the cycle increases with increase in pressure ratio of the cycle.
- For the increasing value of 'a', the efficiency of the cycle decreases for the same value of the pressure ratio.
- For the higher value of the pressure ratio, the difference between the efficiency of the cycle for two different values of ' a ' decreases.

**FROM GRAPH 3.2.5**

- For each value of 'a' ,the ratio $W_n$ / Cp $T_1$ first increases and then decreases.

- For a increasing value of ‘ a’, the ratio $W_n$ / Cp $T_1$ decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ‘ a’ , higher the ratio $W_n$ / Cp $T_1$ .
- With the increasing value of ‘a’ , for the maximum value of the ratio $W_n$ / Cp $T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.2.6**

- For the increasing value of ‘a’ , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of ‘a’ , the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of ‘a’, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.2.7**

- For each value of TIT, the efficiency of the cycle increases as the pressure ratio increases.
- For the increasing value of TIT, the efficiency of the cycle decreases for the same pressure ratio.
- Increasing the pressure ratio, the difference between the efficiency of the cycle for two different values of ‘TIT’ decreases.

**FROM GRAPH 3.2.8**

- For each value of TIT, the ratio $W_n$ / Cp $T_1$ of the cycle increases as the pressure ratio increases.
- For the increasing value of TIT, the ratio $W_n$ / Cp $T_1$ of the cycle increases for the same pressure ratio.

- With the increasing value of 'TIT' , for the maximum value of the ratio $W_n$ / Cp $T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.2.9**

- For the increasing value of TIT, the maximum value of ratio $W_n$ / Cp $T_1$ of the cycle gets at a higher efficiency.
- For each value of TIT , there is a maximum value of efficiency at any value of ratio $W_n$ / Cp $T_1$.
- With the increasing value of TIT , the maximum efficiency decreases for any value of ratio $W_n$ / Cp $T_1$.

**FROM GRAPH 3.2.10**

- For each value of 'a', the efficiency of the cycle increases.
- For a increasing value of ' a', the efficiency of the cycle decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ' a' , higher the efficiency of the cycle .
- With the increasing value of 'a' , for the maximum value of the efficiency of the cycle, the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.2.11**

- For each value of 'a' the ratio $W_n$ / Cp $T_1$ first increases and then decreases.
- For a increasing value of ' a' the ratio $W_n$ / Cp $T_1$ decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ' a' , higher the ratio $W_n$ / Cp $T_1$ .
- With the increasing value of 'a' , for the maximum value of the ratio $W_n$ / Cp $T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.2.12**

- For the increasing value of 'a' , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of 'a' , the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of 'a', the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.2.13**

- For each value of 'a', the efficiency of the cycle decreases.
- For a increasing value of ' a', the efficiency of the cycle decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ' a' , higher the efficiency of the cycle .
- With the increasing value of 'a' , for the maximum value of the efficiency of the cycle, the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.2.14**

- For each value of k, the ratio of Wn / Cp $T_1$ first increases then decreases with the pressure ratio.
- For increasing value of k, ratio of $W_n$ / Cp $T_1$ increases for the same pressure ratio.
- For the increasing value of k , the optimum pressure ratio for the maximum value of $W_n$ / $C_p$ $T_1$ shifts toward higher pressure ratio.

**FROM GRAPH 3.2.15**

- For the increasing value of k , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.

- For the increasing value of k, the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of k, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.2.16**

- At TIT =1000, the efficiency first decreases with the pressure ratio as increasing the ‘ k ‘ but after a certain pressure ratio efficiency of the cycle increases as the ‘k’ increases.
- At TIT =1200, the efficiency decreases with the pressure ratio as increasing the ‘ k ‘ and the difference between the efficiency at k=0.0 & k=0.006 decreases as the pressure ratio increases.

**FROM GRAPH 3.2.17**

- At TIT =1000, the ratio $W_n$ / Cp $T_1$ first decreases with the pressure ratio as increasing the ‘ k ‘ but after a certain pressure ratio ,the ratio $W_n$ / Cp $T_1$ of the cycle increases as the ‘k’ increases.
- At TIT =1200, the ratio $W_n$ / Cp $T_1$ first decreases with the pressure ratio as increasing the ‘ k ‘ but after a certain pressure ratio, the ratio $W_n$ / Cp $T_1$ increases as the ‘k’ increases. But the pressure ratio after which ratio $W_n$ / Cp $T_1$ increases with the ‘k’ increases, shifts toward high-pressure ratio as compare to TIT=1000.

**FROM GRAPH 3.2.18**

- At TIT =1000, the maximum value of ratio $W_n$ / Cp $T_1$ gets at a higher efficiency for the increasing value of ‘k’.

- At TIT =1200, the maximum value of ratio $W_n$ / Cp $T_1$ gets at a higher efficiency for the increasing value of 'k'. But the value of efficiency for maximum value of ratio $W_n$ / Cp $T_1$ shifts toward low value of efficiency as compare to TIT=1000.

## Graphs for the one reheat in expansion process

**FROM GRAPH 3.3.1**

- For each value of k, the efficiency of the cycle increases with increase in pressure ratio of the cycle.
- For the increasing value of k, the efficiency of the cycle decreases for the same value of the pressure ratio.
- For the higher value of the pressure ratio, the difference between the efficiency of the cycle for two different values of k decreases.

**FROM GRAPH 3.3.2**

- For each value of k, the ratio of Wn / Cp $T_1$ first increases then decreases with the pressure ratio.
- For increasing value of k, ratio of $W_n$ / Cp $T_1$ increases for the same pressure ratio.
- For the increasing value of k , the optimum pressure ratio for the maximum value of $W_n$ / $C_p$ $T_1$ shifts toward higher pressure ratio.

**FROM GRAPH 3.3.3**

- For the increasing value of k , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of k, the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.

- For the increasing value of k, the maximum value of the ratio $W_n / Cp\,T_1$ shifts toward low efficiency.

**FROM GRAPH 3.3.4**

- For each value of ‘a’, the efficiency of the cycle increases with increase in pressure ratio of the cycle.
- For the increasing value of ‘a’, the efficiency of the cycle decreases for the same value of the pressure ratio.
- For the higher value of the pressure ratio, the difference between the efficiency of the cycle for two different values of ’ a ‘ decreases.

**FROM GRAPH 3.3.5**

- For each value of ‘a’ ,the ratio $W_n / Cp\,T_1$ first increases and then decreases.
- For a increasing value of ‘ a’, the ratio $W_n / Cp\,T_1$ decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ‘ a’ , higher the ratio $W_n / Cp\,T_1$ .
- With the increasing value of ‘a’ , for the maximum value of the ratio $W_n / Cp\,T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.3.6**

- For the increasing value of ‘a’ , the value of the ratio $W_n / Cp\,T_1$ increases at the same efficiency.
- For the increasing value of ‘a’ , the maximum value of the efficiency for any value of the ratio $W_n / Cp\,T_1$ decreases.
- For the increasing value of ‘a’, the maximum value of the ratio $W_n / Cp\,T_1$ shifts toward low efficiency.

**FROM GRAPH 3.3.7**

- For each value of TIT, the efficiency of the cycle increases as the pressure ratio increases.
- For the increasing value of TIT, the efficiency of the cycle increases for the same pressure ratio.
- Increasing the pressure ratio, the difference between the efficiency of the cycle for two different values of 'TIT' increases.

**FROM GRAPH 3.3.8**

- For each value of TIT, the ratio $W_n$ / Cp $T_1$ of the cycle increases as the pressure ratio increases.
- For the increasing value of TIT, the ratio $W_n$ / Cp $T_1$ of the cycle increases for the same pressure ratio.
- With the increasing value of 'TIT' , for the maximum value of the ratio $W_n$ / Cp $T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.3.9**

- For the increasing value of TIT, the maximum value of ratio $W_n$ / Cp $T_1$ of the cycle gets at a higher efficiency.
- For each value of TIT , there is a maximum value of efficiency at any value of ratio $W_n$ / Cp $T_1$.
- With the increasing value of TIT , the maximum efficiency increases for any value of ratio $W_n$ / Cp $T_1$.

**FROM GRAPH 3.3.10**

- For each value of ‘a’, the efficiency of the cycle increases.
- For a increasing value of ‘ a’, the efficiency of the cycle decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ‘ a’ , higher the efficiency of the cycle .
- With the increasing value of ‘a’ , for the maximum value of the efficiency of the cycle, the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.3.11**

- For each value of ‘a’ the ratio $W_n / Cp\, T_1$ first increases and then decreases.
- For a increasing value of ‘ a’ the ratio $W_n / Cp\, T_1$ decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ‘ a’ , higher the ratio $W_n / Cp\, T_1$ .
- With the increasing value of ‘a’ , for the maximum value of the ratio $W_n / Cp\, T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.3.12**

- For the increasing value of ‘a’ , the value of the ratio $W_n / Cp\, T_1$ increases at the same efficiency.
- For the increasing value of ‘a’ , the maximum value of the efficiency for any value of the ratio $W_n / Cp\, T_1$ decreases.
- For the increasing value of ‘a’, the maximum value of the ratio $W_n / Cp\, T_1$ shifts toward low efficiency.

**FROM GRAPH 3.3.13**

- For each value of 'a', the efficiency of the cycle increases and the difference between efficiency for k=0.0 & k=.006 decreases.
- For increasing value of ' a', the efficiency of the cycle decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ' a' , higher the efficiency of the cycle .
- With the increasing value of 'a' , for the maximum value of the efficiency of the cycle, the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.3.14**

- For each value of k, the ratio of Wn / Cp $T_1$ first increases with the pressure ratio.
- For increasing value of k, ratio of $W_n$ / Cp $T_1$ increases for the same pressure ratio.
- For the increasing value of k , the optimum pressure ratio for the maximum value of $W_n$ / $C_p$ $T_1$ shifts toward higher pressure ratio.

**FROM GRAPH 3.3.15**

- For the increasing value of k , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of k, the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of k, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.1.16**

- At TIT =1000, the efficiency decreases with the pressure ratio as increasing the ‘ k ‘ and the difference between efficiency decreases for k=0.0 & k=. 006 with increasing pressure ratio.
- At TIT =1200, the efficiency first decreases with the pressure ratio as increasing the ‘ k ‘and the difference between the efficiency at k=0.0 & k=0.006 decreases as the pressure ratio increases.

**FROM GRAPH 3.3.17**

- At TIT =1000, the ratio $W_n$ / Cp $T_1$ first decreases with the pressure ratio as increasing the ‘ k ‘ but after a certain pressure ratio ,the ratio $W_n$ / Cp $T_1$ of the cycle increases as the ‘k’ increases.
- At TIT =1200, the ratio $W_n$ / Cp $T_1$ first decreases with the pressure ratio as increasing the ‘ k ‘ but after a certain pressure ratio, the ratio $W_n$ / Cp $T_1$ increases as the ‘k’ increases. But the pressure ratio after which ratio $W_n$ / Cp $T_1$ increases with the ‘k’ increases, shifts toward high-pressure ratio as compare to TIT=1000.

**FROM GRAPH 3.3.18**

- At TIT =1000, the maximum value of ratio $W_n$ / Cp $T_1$ gets at a higher efficiency for the increasing value of ‘k’.
- At TIT =1200, the maximum value of ratio $W_n$ / Cp $T_1$ gets at a higher efficiency for the increasing value of ‘k’. But the value of efficiency for maximum value of ratio $W_n$ / Cp $T_1$ shifts toward high value of efficiency as compare to TIT=1000.

## Graphs for one inter cooler used in compression process and one reheat in expansion

**FROM GRAPH 3.4.1**

- For each value of k, the efficiency of the cycle increases with increase in pressure ratio of the cycle.
- For the increasing value of k, the efficiency of the cycle decreases for the same value of the pressure ratio.
- For the higher value of the pressure ratio, the difference between the efficiency of the cycle for two different values of k decreases.

**FROM GRAPH 3.4.2**

- For each value of k, the ratio of Wn / Cp $T_1$ first increases then decreases with the pressure ratio.
- For increasing value of k, ratio of $W_n$ / Cp $T_1$ increases for the same pressure ratio.
- For the increasing value of k , the optimum pressure ratio for the maximum value of $W_n$ / $C_p$ $T_1$ shifts toward higher pressure ratio.

**FROM GRAPH 3.4.3**

- For the increasing value of k , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of k, the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of k, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.4.4**

- For each value of ‘a’, the efficiency of the cycle increases with increase in pressure ratio of the cycle.
- For the increasing value of ‘a’, the efficiency of the cycle decreases for the same value of the pressure ratio.
- For the higher value of the pressure ratio, the difference between the efficiency of the cycle for two different values of ’ a ‘ decreases.

**FROM GRAPH 3.4.5**

- For each value of ‘a’ ,the ratio $W_n$ / Cp $T_1$ first increases and then decreases and the difference between the value of $W_n$ / Cp $T_1$ decreases with pressure ratio increases.
- For a increasing value of ‘ a’, the ratio $W_n$ / Cp $T_1$ decreases .

**FROM GRAPH 3.4.6**

- For the increasing value of ‘a’ , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of ‘a’ , the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of ‘a’, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.4.7**

- For each value of TIT, the efficiency of the cycle increases as the pressure ratio increases.
- For the increasing value of TIT, the efficiency of the cycle increases for the same pressure ratio.

- Increasing the pressure ratio, the difference between the efficiency of the cycle for two different values of 'TIT' increases.

**FROM GRAPH 3.4.8**

- For each value of TIT, the ratio $W_n$ / Cp $T_1$ of the cycle increases as the pressure ratio increases.
- For the increasing value of TIT, the ratio $W_n$ / Cp $T_1$ of the cycle increases for the same pressure ratio.
- With the increasing value of 'TIT' , for the maximum value of the ratio $W_n$ / Cp $T_1$ the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.4.9**

- For the increasing value of TIT, the maximum value of ratio $W_n$ / Cp $T_1$ of the cycle gets at a higher efficiency.
- For each value of TIT , there is a maximum value of efficiency at any value of ratio $W_n$ / Cp $T_1$.
- With the increasing value of TIT , the maximum efficiency increases for any value of ratio $W_n$ / Cp $T_1$.

**FROM GRAPH 3.4.10**

- For each value of 'a', the efficiency of the cycle increases.
- For a increasing value of ' a', the efficiency of the cycle decreases and the difference between efficiency decreases with increasing pressure ratio.
- With the increasing value of 'a' , for the maximum value of the efficiency of the cycle, the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.4.11**

- For each value of 'a' the ratio $W_n$ / Cp $T_1$ first increases and then decreases.

- For a increasing value of ‘ a’ the ratio $W_n$ / Cp $T_1$ decreases and the difference between the value of ratio $W_n$ / Cp $T_1$ decreases with increasing pressure ratio.

**FROM GRAPH 3.4.12**

- For the increasing value of ‘a’ , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.
- For the increasing value of ‘a’ , the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.

**FROM GRAPH 3.4.13**

- For each value of ‘a’, the efficiency of the cycle increases and the difference between efficiency for k=0.0 & k=.006 decreases.
- For a increasing value of ‘ a’, the efficiency of the cycle decreases upto a certain pressure ratio. After this pressure ratio the higher the value of ‘ a’ , higher the efficiency of the cycle .
- With the increasing value of ‘a’ , for the maximum value of the efficiency of the cycle, the optimum value of pressure ratio shifts toward high pressure ratio.

**FROM GRAPH 3.4.14**

- For each value of k, the ratio of Wn / Cp $T_1$ increases with the pressure ratio.
- For increasing value of k, ratio of $W_n$ / Cp $T_1$ increases for the same pressure ratio.
- For the increasing value of k , the optimum pressure ratio for the maximum value of $W_n$ / $C_p$ $T_1$ shifts toward higher pressure ratio.

**FROM GRAPH 3.4.15**

- For the increasing value of k , the value of the ratio $W_n$ / Cp $T_1$ increases at the same efficiency.

- For the increasing value of k, the maximum value of the efficiency for any value of the ratio $W_n$ / Cp $T_1$ decreases.
- For the increasing value of k, the maximum value of the ratio $W_n$ / Cp $T_1$ shifts toward low efficiency.

**FROM GRAPH 3.4.16**

- At TIT =1000, the efficiency decreases with the pressure ratio as increasing the ‘ k ‘ and the difference between efficiency decreases for k=0.0 & k=. 006 with increasing pressure ratio.
- At TIT =1200, the efficiency first decreases with the pressure ratio as increasing the ‘ k ‘and the difference between the efficiency at k=0.0 & k=0.006 decreases as the pressure ratio increases.

**FROM GRAPH 3.4.17**

- At TIT =1000, the ratio $W_n$ / Cp $T_1$ first decreases with the pressure ratio as increasing the ‘ k ‘ but after a certain pressure ratio ,the ratio $W_n$ / Cp $T_1$ of the cycle increases as the ‘k’ increases.
- At TIT =1200, the ratio $W_n$ / Cp $T_1$ first decreases with the pressure ratio as increasing the ‘ k ‘ but after a certain pressure ratio, the ratio $W_n$ / Cp $T_1$ increases as the ‘k’ increases. But the pressure ratio after which ratio $W_n$ / Cp $T_1$ increases with the ‘k’ increases, shifts toward high-pressure ratio as compare to TIT=1000.

**FROM GRAPH 3.4.18**

- At TIT =1000, the maximum value of ratio $W_n$ / Cp $T_1$ gets at a higher efficiency for the increasing value of ‘k’.

- At TIT =1200, the maximum value of ratio $W_n$ / Cp $T_1$ gets at a higher efficiency for the increasing value of 'k'. But the value of efficiency for maximum value of ratio $W_n$ / Cp $T_1$ shifts toward high value of efficiency as compare to TIT=1000.

# CHAPTER 4

## CONCLUSION

The effect of variable specific heat is discussed. The specific heat of air is varies considerably with temperature. At 300 K the constant pressure specific heat of air is 1.005 kJ /kg K but at 1000K, it is 1.140 kJ/kg K.

In ideal cycle calculations the specific heat has been taken to be constant throughout the cycle, with a value of 1.005 kJ /kg K. Thus, this assumption would seem to introduce considerable error.

The cycle model, assuming temperature-dependent specific heats of the working fluid has been investigated numerically. In this study temperature dependent specific heat ratio functions were derived. The performance characteristics of the cycle were obtained by numerical examples using these derived relations. Along with the analysis of simple gas turbine , gas turbine with one intercooler alone, one reheat alone , and with one intercooler and one reheat cycles have been analyzed. During this analysis it is revealed that simple gas turbine performance most affected by the consideration of variable specific heat. The results show that there are significant effects of the temperature dependence of the specific-heats heat of the working fluid on the performance of the cycles, and this should be considered in practical-cycle analysis. The results obtained from this research are compatible with those in the open literature, but for other cycles, and may be used with assurance to provide guidance for the analysis of the behavior and design of practical engines. It would be more meaningful if one considers experimental results. This will be a next work in the near future.

Future studies should discuss the possible effects of fuel additives in order to achieve a less temperature-dependent specific heat of the working fluid.

# ANNEXURE

**// programme for analysis of gas turbine with and without intercooler and reheat to find out compressor work input, turbine work output , net work output, specific work ratio and efficiency of the cycle at various pressure ratio for variable specific heat.**

```
#include <conio.h>
#include <stdio.h>
#include <iostream.h>
#include <math.h>
#include<ctype.h>
#include<graphics.h>

main()
{
clrscr();
        char ch='Y';
        char outline[500];
        double T1,P1,N1,Ma,m,a,k1, bv, ecc,Q1,ec,Rc,P2,G,Tcooler,work_total,
                tc_actual, Wci, tc_ideal,Wn,Q,T3,Ws,S,T,cv;
        int i,choice;
        double T0, z, h1, h2,x, y ,x1,y1 ,h11,k2;
        FILE *fp;
        fp=fopen("C:\\project.xls","w");
        fprintf(fp,"\n\n\t\tTIT\ta\tk1\tbv\trp\tWc\tWt\teth\tWs\tWn\n");

 cout << "Please Enter T1 P1 N1 Ma a and b";
 cout << "\nPlease Enter ambient temperatureT1\n";
                cin >> T1;
 cout << "\nPlease Enter ambient presure P1\n ";
                cin >> P1;
cout << "\nPlease Enter the no of intercoolers N1\n ";
                cin >> N1;
 cout << "\nPlease Enter the mass of the air Ma\n ";
                cin >> Ma;
        m=Ma;
cout << "\nPlease Enter the coefficent a of the 'cp= a + k1 T'\n";
                cin >> a;
cout << "\nPlease Enter The coefficent k1 of the 'cp= a + k1 T'\n";
                cin >> k1;
```

```
cout << "\nPlease Enter coefficent bv of the 'cv= bv + k1 T'\n";
                cin >> bv;

         bv=a-8.314;
        k2=k1/2;
for(i=0;i<(N1+1);i++)
{
        cout<<"\nEnter choice\n";
        cin >> choice;

                if(choice==1)
                        {
                                cout << "\nEnter  pressure after compression of  P2\n";
                                        cin  >> P2;
                                Rc = P2 / P1;
                                P1 =P2;
                        }
                if(choice==2)
                        {
                                cout << "\nEnter  Pr Ratio Rc \n";
                                        cin >> Rc;
                        }
        cout << " \nEnter efficiency of the compressor(ec)\n";
                cin  >> ec;
        if (i > 0)
        {
        cout << " \nEnter temperature after the  cooling (Tcooler)\n";
                cin  >> Tcooler;
        T1 = Tcooler;
        }
        double p, q, r, s, t;
        p=a-bv;
        q=p*log(Rc);
        r=q+k1*T1+a*log(T1);
        x=r/a;
        y=k1/a;
        cout<< " \nEnter initial guess of the temperature of air T2(non zero)\n";
                cin >> T0;
                z=.0001;
                h1=log(T0) - x +y*T0;
                do
                {
                        h1=log(T0) - x +y*T0;
                        h2= 1/T0 + y;
                        T0=T0-h1/h2;
                        h1=log(T0) - x +y*T0;
```

```
                        h1=h1*h1;
                        h1=sqrt (h1);
                }while(h1>z);
                 tc_ideal=  T0;

double x22,x11,c,D;
            c = (tc_ideal - T1) * ( a + k2 * ( tc_ideal + T1));
            c /=   ec;
            c +=  a * T1 + k2 * T1 * T1 ;
            c = - c;

            D =  sqrt(a*a - 4*k2*c);
            x11=  (-a + D) / (2 *k2);
            x22=  (-a - D) / (2 *k2);

            tc_actual=x11;

            Wci = Ma * ( a * tc_actual + k2 * tc_actual * tc_actual- a * T1 - k2 * T1 * T1);
            work_total = work_total + Wci;

            cout << "\nWc"<<i<<" = " <<Wci<<"\n\n";
}
   cout << "\nWork Total= "<< work_total<<"\n\n";
   cout << "\nT2 = " << tc_actual<<"\n\n";

//****************************************
// Turbine Calculation

  double T3,Rt,et,T2 = tc_actual,tt_ideal=0,tt_actual=0;
  int N2;
  cout << "\nEnter No. of Reheat Cycles N2 \n" ;
                    cin >> N2;

 double work_ttotal=0,Wti;
  for( i=0; i < (N2+1);i++)

  {
  cout << "\nEnter expansion ratio in the turbine(Rt)\n";
                      cin >> Rt;
  cout << "\nEnter the efficiency of the turbine(et)\n";
                     cin >> et;

if (i > 0)
            {
                        T2=tt_actual;
            }
```

```
 double T00,x1,y1;
 double p1, q1, r1, s1, t1;
        p1=a-bv;
        q1=-p1*log(Rt);
        r1=q1+k1*T3+a*log(T3);
        x1=r1/a;
        y1=k1/a;

cout<< " \nEnter initial guess of the temperature of Te(non zero)\n";
                cin >> T00;
                z=.0001;
                h1=log(T00) - x1 + y1 *T00;
                h1=h1*h1;
                h1=sqrt (h1);
                do
                {
                        h1=log(T00) - x1 + y1 *T00;
                        h2= 1/T00 + y1;
                        T00=T00-h1/h2;
                        h1=log(T00) - x1 + y1 *T00;
                        h1=h1*h1;
                        h1=sqrt (h1);
                }
                while(h1>z);
                tt_ideal =  T00;

double c1,x111,x222,D;

        c1 = (T3-tt_ideal) * ( a + k2 * ( T3 +  tt_ideal));
        c1 *=   et;
        c1 -=  a * T3 + k2 * T3 * T3 ;

        D =  sqrt(a*a - 4*k2*c1);
        x111=  (-a + D) / (2 *k2);
        x222=  (-a - D) / (2 *k2);

        tt_actual =x111;
        cout<<"\nT4=  "<<tt_actual<<"\n\n";

        Wti = Ma * ( a * T3 + k2 * T3 * T3 - a * tt_actual - k2 *tt_actual  * tt_actual);
        work_ttotal = work_ttotal + Wti;
        cout << "\nWt"<<i<<" = " <<Wti<<"\n\n";

        Q= (1/ecc)*(Ma*(a*T3+k2*T3*T3)-m*(a* T2+k2*T2*T2));
        Q1=Q1+Q;
```

```
          cout<<"Q"<<Q1;
          cout << "Wti"<< Wti;
  }
  cout << "\nWork Total=   "<< work_ttotal<<"\n\n";
  cout << "\nT4 = " << tt_actual;
double eth;
   cout<<"\nEnter the combustion efficiency(ecc)\n ";
                  cin>>ecc;

          eth=(work_ttotal-work_total)/Q1;
          Wn=(work_ttotal-work_total);
          cout<<"Wn"<<Wn<<"\n";
          Ws=Wn/(a*T1+k1*T1*T1);

          fprintf(fp,"\t\t%f\t%f\t%f\t%f\t%f\t%f\t%f\t%f\t%f\t%f\n",T3,a,k1,bv,Rc,work_to
tal,work_ttotal,eth,Ws,Wn);

          cout<<"\nthermal efficiency= "<<eth<<"\n\n";

fclose(fp);

fp=fopen("c:\\project.xls","r");
fscanf(fp,"\n\n\t\t %[ 1A-Za-z\t]s\n",outline);
cout<<outline<<"\n";
while (!feof(fp))
{

  if (!feof(fp))
  {
          fscanf(fp,"%f %f %f %f %f %f %f %f
%f\n",&T3,&a,&k1,&bv,&Rc,&work_total,&work_ttotal,&eth,&Ws,&Wn);
          printf("%4.0f  %5.3f  %4.3f   %6.3f    %2.0f   %5.2f %5.2f %6.5f %6.4f
%6.4f\n",T3,a,k1,bv,Rc,work_total,work_ttotal,eth,Ws,Wn);
  }


}

          getch();
          return 0;
}
```

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